VOLUME 15 • MARCH 1960 • NUMBER III

Journal of the AMERICAN MEDICAL WOMEN'S ASSOCIATION

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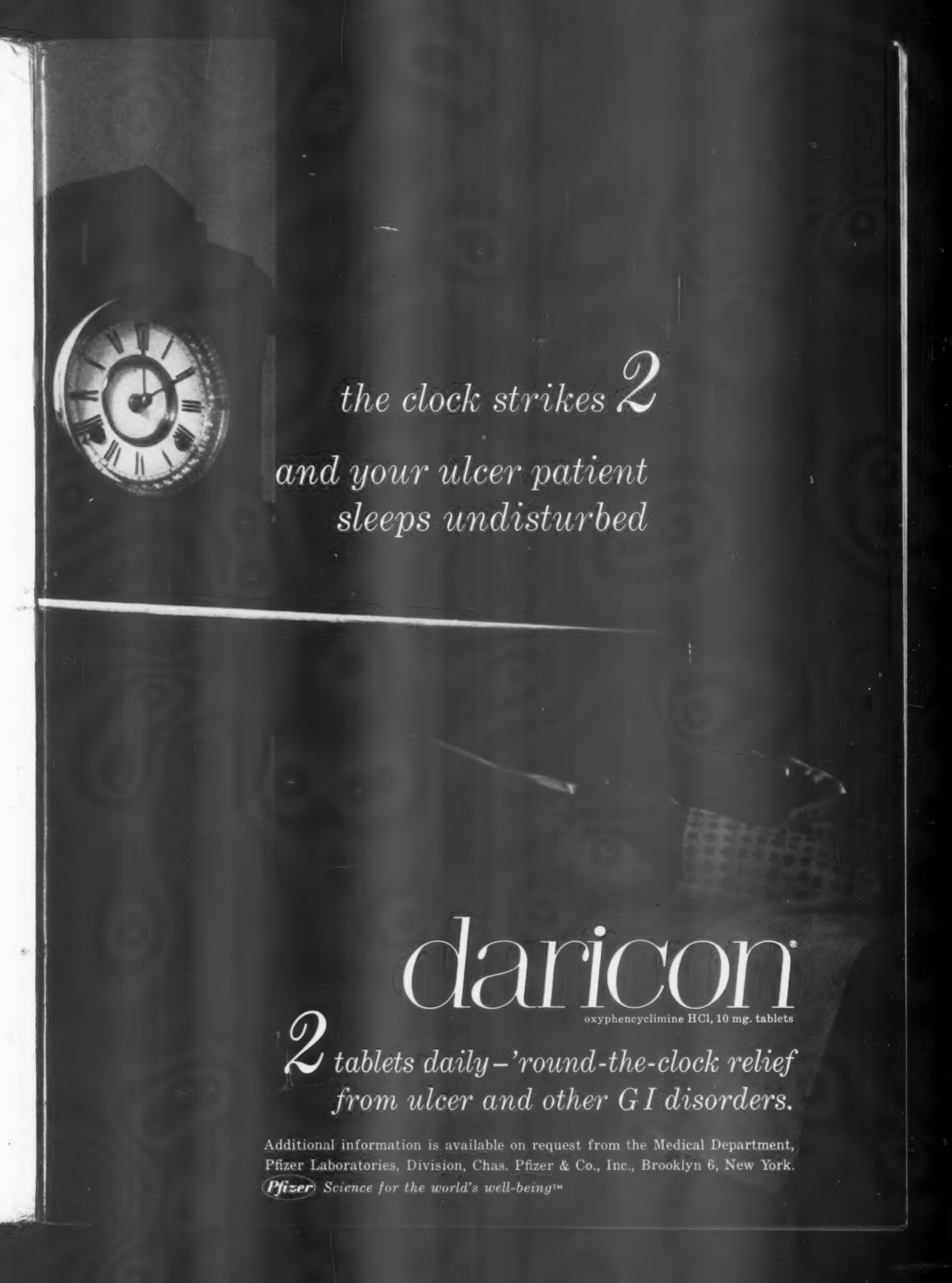
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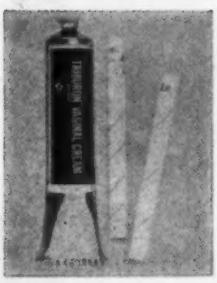

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References: 1. J. J. McDonough and N. Mulla, to be published. 2. Reports on file, Roche Laboratories. 3. N. Mulla and J. J. McDonough, *Ann. New York Acad. Sc.*, *82*:(Art. 1), 182, 1959. 4. L. E. Savel, D. B. Gershenfeld, J. Finkel and P. Drucker, *ibid.*, p. 186.

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Journal of the AMERICAN MEDICAL WOMEN'S ASSOCIATION

Volume 15 | March, 1960 | Number 3

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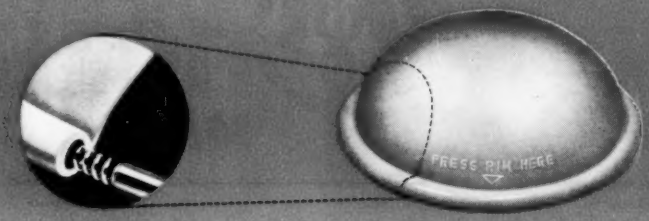

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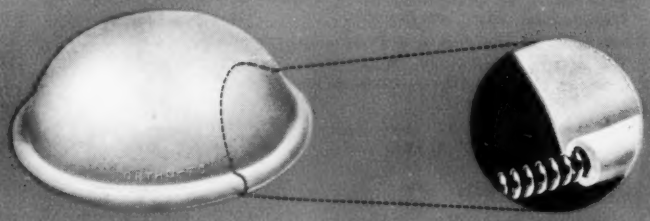

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References:
1. Friend, D. G.: Clin. Pharm. & Therap. 1:5 (Jan.) 1960. 2. Parker, M. L.: Investigator's Report, Dec. 24, 1958. 3. Tyler, E. T., and Olson, H. J.: Ann. New York Acad. Sc. 71:704 (July 30) 1958. 4. Rakoff, A. E.: Symposium on Enovid, Chicago, Searle Research Laboratories, 1959, pp. 54-57. 5. Weinberg, C. H.: Symposium on Enovid, Chicago, Searle Research Laboratories, 1959, pp. 19-24. 6. Chalmers, J. A.: Proc. Roy. Soc. Med. 52:516 (July) 1959. 7. Pitt, M. B.: J.M.A. Alabama 25:182 (Feb.) 1956. 8. Goldfarb, A. F., and Napp, E. E.: J.A.M.A. 161:616 (June 16) 1956.

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1. Symposium on New Steroid Compounds with Progestational Activity, Ann. New York Acad. Sc. 71:483-805 (July 30) 1958.
2. Edgren, R. A.: Endocrinology 62:689 (May) 1958.
3. Rakoff, A. E.: Pages 800-805 of reference 1.

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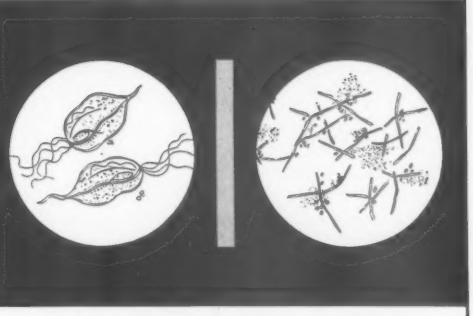

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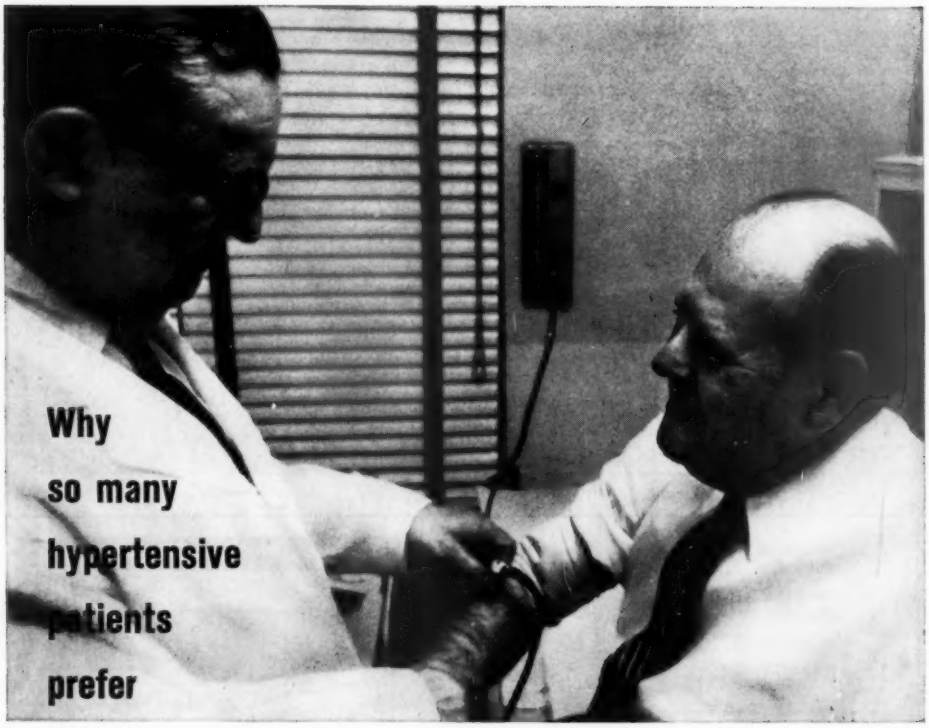

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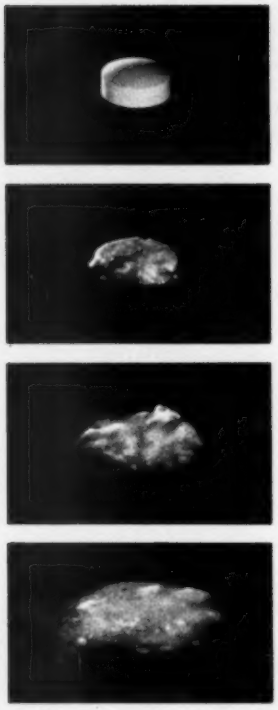

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REFERENCES:
1. Chow, B. F.: Gerontologia 2:213-221, 1958.
2. Chow, B. F., et al.: Am. J. Clin. Nutrition 6:386, 1958.

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SOMA T.M.

(carisoprodol Wallace)

1. Kestler, O: In The Pharmacology and Clinical Usefulness of Carisoprodol. Wayne State University Press, Detroit, 1959. 2. Berger, F. M.; Kletzkin, M.; Ludwig, B. J.; Margolin, S., and Powell, L. S.: J. Pharm. Exp. Ther. *127*:66 (Sept.) 1959. 3. Spears, C. E. and Phelps, W. M.: Arch. Pediat. 76:287 (July) 1959. 4. Phelps, W. M.: Arch. Pediat. 76:243 (June) 1959. 5. Friedman, A. P.; Frankel, K., and Fransway, R. L.: Papers presented at Scientific Meeting, New York State Society of Industrial Medicine, Inc. ,New York, Sept. 30, 1959. 6. Kuge, T.: Unpublished reports. 7. Ostrowski, J. P.: Orthopedics (In Press).

Literature and samples on request

Also available on request: The Pharmacology and Clinical Usefulness of Carisoprodol, Wayne State University Press, Detroit, 1959. (185 pages)

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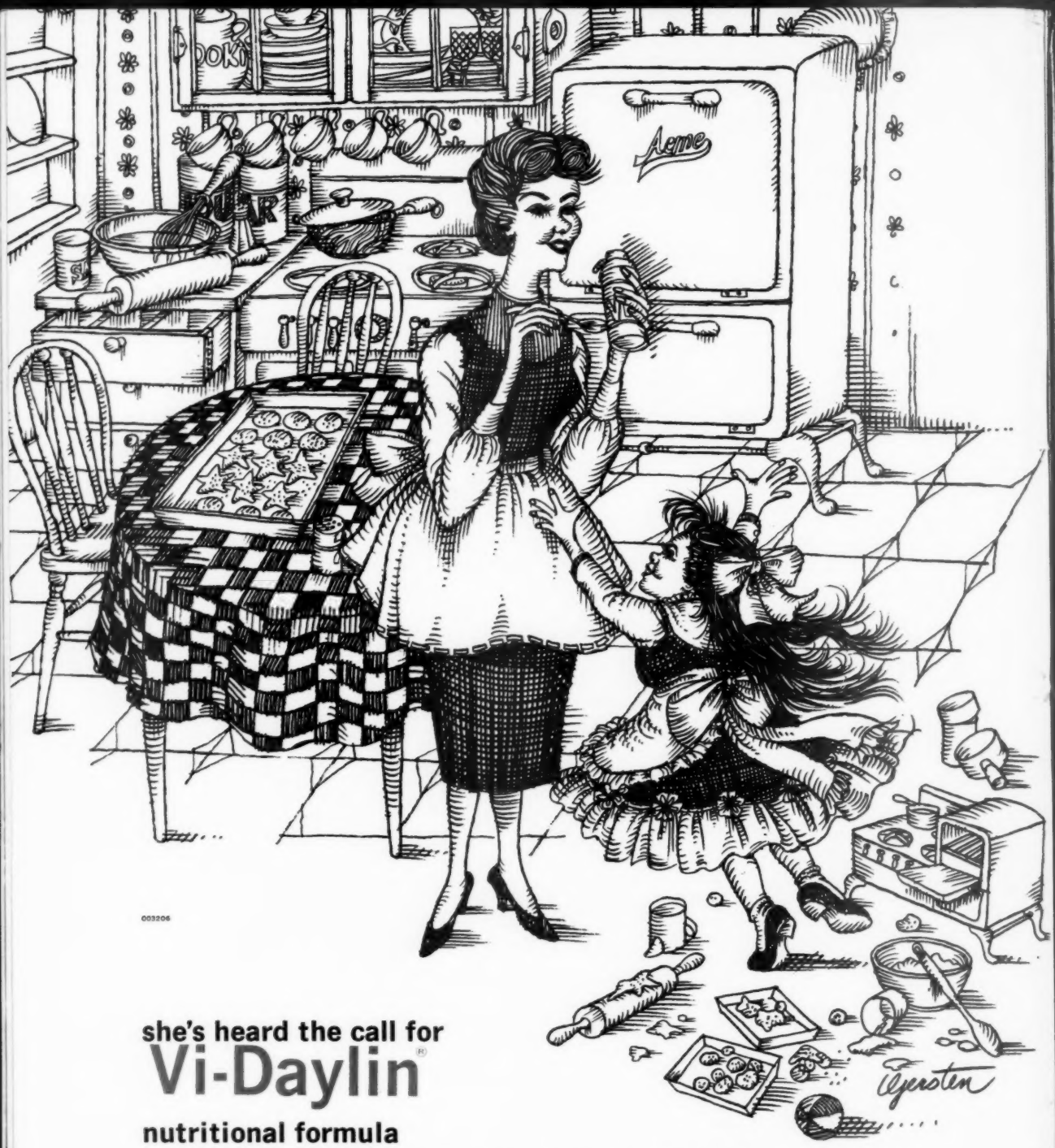

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REFERENCES: 1. Campbell, M. F.: Principles of Urology, Philadelphia, W. B. Saunders Co., 1957. 2. Colby, F. H.: Essential Urology, Baltimore, The Williams & Wilkins Co., 1953.

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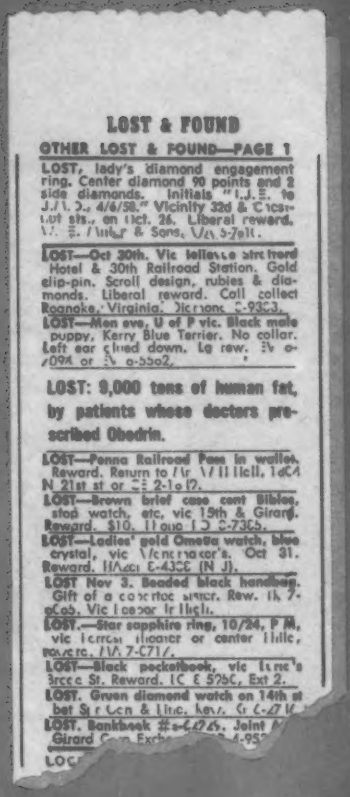

LOST & FOUND

OTHER LOST & FOUND—PAGE 1

LOST, lady's diamond engagement ring. Center diamond 90 points and 2 side diamonds. Initials "L.J.E. to J.J.D., 4/6/58." Vicinity 32d & Chestnut sts., on Oct. 24. Liberal reward. W. E. Hulme & Sons, Va. 5-7811.

LOST—Oct 30th. Vic Bellevue Stratford Hotel & 30th Railroad Station. Gold clip-pin. Scroll design, rubies & diamonds. Liberal reward. Call collect Roanoke, Virginia, Diamond 5-9303.

LOST—Men ave, U of P vic. Black male puppy, Kerry Blue Terrier. No collar. Left ear ch ned down. Lg rew. Pl o-7094 or Pl 6-5502.

LOST: 9,000 tons of human fat, by patients whose doctors prescribed Obedrin.

LOST—Penna Railroad Pass in wallet. Reward. Return to Mr. Mitchell, 1604 N. 21st st or Ce 2-1012.

LOST—Brown brief case cont Biblog, stop watch, etc. vic 15th & Girard. Reward. $10. Hand to LO 8-7365.

LOST—Ladies' gold Omega watch, blue crystal, vic Memorial Ave. Oct 31. Reward. Mabel E-4356 (N. J.).

LOST Nov 3. Beaded black handbag. Gift of a convention visitor. Rew. Ih 7-6760. Vic Locust Th Eight.

LOST.—Star sapphire ring, 10/24, P.M., vic Lemon theater or center Hall, Germantown Ave. VI 7-6717.

LOST—Black pocketbook, vic Penn's Treaty St. Reward. LO 8-5756, Ext 2.

LOST. Green diamond watch on 14th st bet Spruce & Pine. Rew. GE 6-4710

LOST. Bankbook #s-4765. Joint A/c Girard Comm Exchange [illegible]

LOST

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1	2	3
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	Semoxydrine® HCl (methamphetamine HCl), 5 mg., for its anorexigenic and mood-lifting effects
	Pentobarbital, 20 mg., to guard against excitation
	Thiamine Mononitrate, 0.5 mg., Riboflavin, 1 mg., and Nicotinic Acid (Niacin), 5 mg., to supplement the diet
	Ascorbic Acid, 100 mg., to help mobilize tissue fluids

* Einfeldor, Henry W.: Treatment of Obesity: The Role of the Doctor, Drug and Diet in Weight Loss, Am. Pract. and Dig. of Treat., 5:778 (Oct., 1954).
Sherman, Robert J.: Weight Reduction, Med. Times, 82:107 (Feb., 1954).

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and the 60-10-70 Basic Plan

provide an effective weight-control regimen

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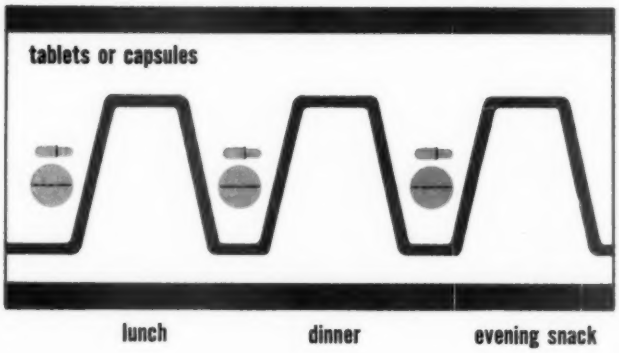
A FLEXIBLE DOSAGE FORM PROVIDES DEPENDABLE CONTROL OF APPETITE



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analexin™

phenyramidol HCl

a single chemical that is both a general non-narcotic analgesic and an effective muscle relaxant

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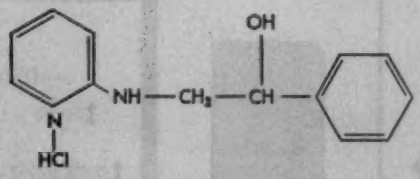
therefore... in pain... where pain makes tension and tension makes pain... analexin stops both effectively

Analexin is a new synthetic chemical (phenyramidol hydrochloride) that inherently possesses within one molecular structure two different pharmacologic actions: (1) *general analgesia,* by raising the pain threshold and thus decreasing the perception of pain, and (2) *muscle relaxation,* by selectively depressing subcortical, brain stem and spinal polysynaptic transmission (interneuronal blockade), abolishing abnormal muscle tone without impairing normal neuromuscular function.[1,2]

Although the analgesic potency of one tablet is clinically equivalent to one grain of codeine, Analexin is not narcotic or narcotic related. It is not habituating and tolerance to the drug has not been noted. Muscle relaxant action is comparable to the most potent muscle relaxants available for oral use. *The total effect is "analgomylaxation"—a new advance for the relief of pain.*



The full chemical name for phenyramidol is 2-(β hydroxyphenethylamino)-pyridine hydrochloride. It is unrelated to any currently available analgesic or muscle relaxant compound.[3,4]

Meister

analexin provides effective relief of the total pain experience...

The end result of pain, regardless of its origin, is discomfort or suffering paralleled by muscle tension. Thus muscle tension may play a fundamental role in the total pain experience even though it does not initiate the pain. Employment of a single agent that produces two distinct but associated physiologic responses has obvious advantages, for relief of the total pain experience is better accomplished by the integrated action of phenyramidol which acts on both pain centers and muscle to produce analgesia and relieve muscle tension simultaneously.

with remarkably few side effects

Side effects such as sedation, euphoria, mental confusion and depression, sometimes associated with interneuronal blocking and certain analgesic agents have not been noted with Analexin. Incidence of reactions is low and those reactions that occasionally occur (such as gastric irritation and pruritus) are of a mild and transient nature and do not limit therapy.[5]

Meister

announcing a new class of drug

analexin

results with analexin in clinical trials

Batterman, Grossman and Mouratoff[5] compared Analexin with aspirin, sodium salicylate and a placebo in a series of 195 patients with various painful conditions. The authors concluded:

"Not only is satisfactory relief of painful states achieved in the majority of patients regardless of etiology and duration of pain, but there is also no evidence suggestive of cumulative toxicity. Furthermore, in contrast to codeine and meperidine, the likelihood of untoward reactions occurring in ambulant patients is not high. This is a decided advantage since the control of pain in the ambulant patient with chronic pain is a major clinical problem."

"Phenyramidol (Analexin), with therapeutic doses is not only safe for chronic administration, but also to date we have noted no adverse effect upon the cardiovascular, gastrointestinal, respiratory, kidney, liver or central nervous systems."

Wainer[6] reported a series of 200 cases treated with phenyramidol for various painful conditions. In fifty of these patients who had dysmenorrhea, he saw excellent results in 40, good results in 5 and poor results in 5. Further examination in 4 cases not responding revealed presence of organic pathology. A second group of 50 cases with headache and associated premenstrual tension responded with over-all excellent results. Wainer also reports the use of phenyramidol to replace codeine for postpartum pain and describes 100 cases wherein a combination of phenyramidol with aluminum aspirin (Analexin-AF) successfully replaced aspirin and codeine therapy.

Neisler

more results with analexin in clinical trials

In another series of dysmenorrhea cases, Bader[7] compiled data on 20 employees of a telephone company who required ½ to 2 days off from work every month regardless of prior therapy employed. Satisfactory results were achieved in 15 out of 20 and a fair response in the remaining five. All were able to remain on the job although relief was not complete in the latter cases.

Bealer[8] treated 32 patients with phenyramidol mostly for musculoskeletal disorders and had good or very good results in 15, fair results in 14 and poor or inconclusive results in 2 patients. Cohen[9] used phenyramidol together with aspirin in 15 patients with such conditions as sciatic pain, osteoarthritis, anterior chest wall syndrome, etc. and got outstanding relief in 80 per cent. Gilbert[10] reported that 15 patients with nonspecific headache had excellent relief in a matter of minutes with phenyramidol, and in 8 cases of dry socket pain Bruno[11] reports immediate relief in six cases and good results later in the other two after sockets were curetted under local anesthesia. Stern[12] reported on 40 ambulatory cases with a variety of painful conditions and saw good relief in 32 patients and poor in 8. Results were best in acute sacroiliac pain, myositis, muscle spasm, fractures, pleurisy and neuritis. Ten of 13 patients with osteoarthritis responded very well and are continuing on phenyramidol therapy.

Meisler

announcing a new class of drug

analexin

analexin *(phenyramidol)*
for relief of pain *and muscle tension* in:
low back pain
sprains and strains
myalgia
glass arm
wry neck
osteoarthritis
dysmenorrhea
tension headache
gout
postpartum pain
epigastric distress
(pylorospasms, gastritis, duodenal ulcer, cholecystitis)
genitourinary conditions
(premenstrual cramping or tension)
abdominal distress
(flatulence, colic)
toothache and dry socket pain

analexin-AF *(phenyramidol with aluminum aspirin)*
for relief of pain and muscle tension also involving inflammatory processes and/or fever, as in:
arthritis
arthralgia
bursitis
tendinitis
myalgia of strain and tear
pre- and postoperative toothache

dosage:
analexin: for relieving pain and/or muscle tension, one or two tablets every 4 hours. In dysmenorrhea, two tablets initially then one tablet every 2 to 4 hours as needed.

analexin-AF: two tablets every 4 hours or as required.

supply:
analexin tablets—Each tablet contains 200 mg. of phenyramidol HCl. Bottles of 100 tablets.

analexin-AF tablets — Each tablet contains 100 mg. of phenyramidol HCl and 300 mg. of aluminum aspirin. Bottles of 100 tablets.

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Clinical Reports cited above are in the files of the Medical Department, Irwin, Neisler & Co.

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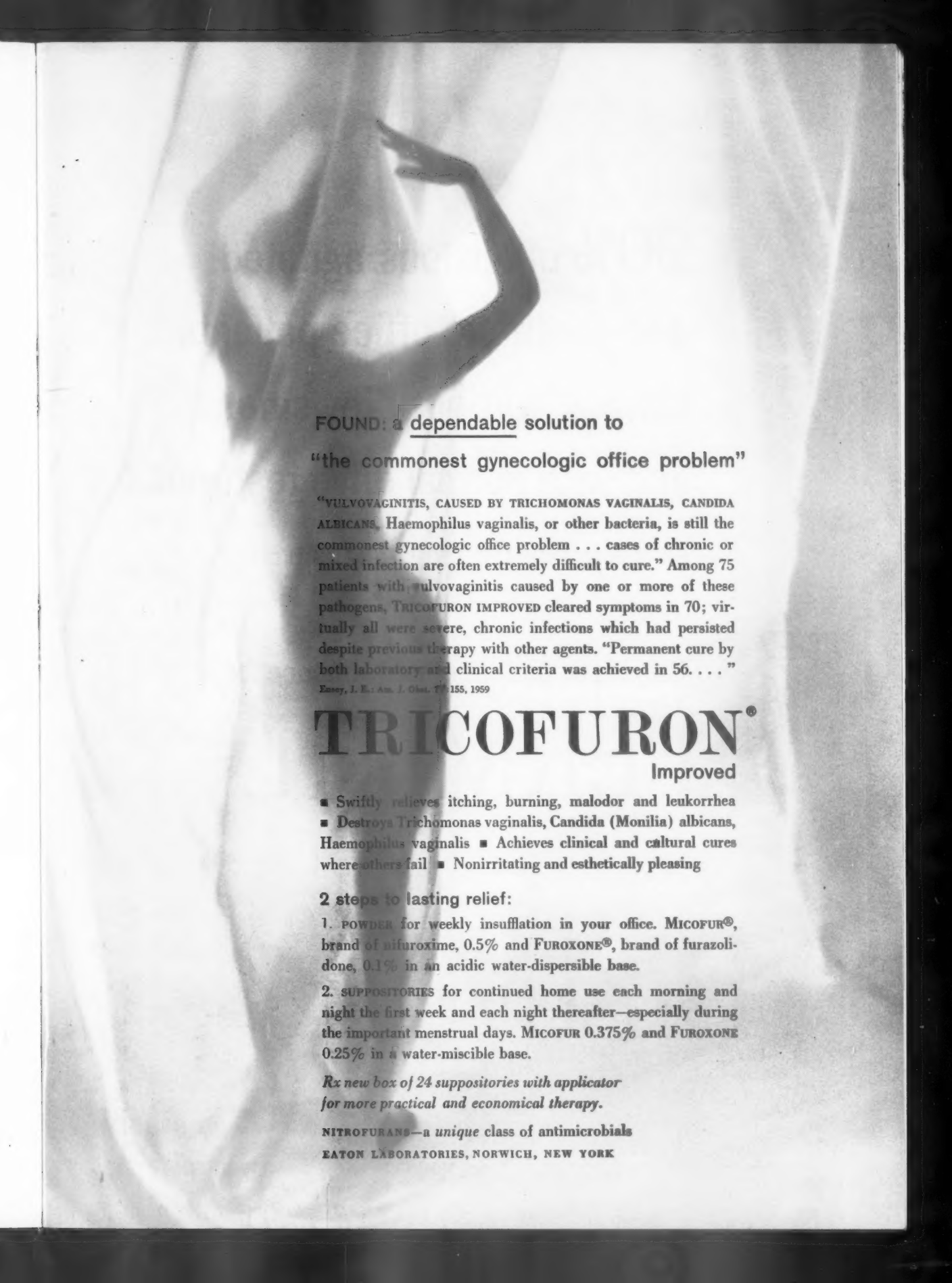

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Essey, J. E.: Am. J. Obst. & G. 155, 1959

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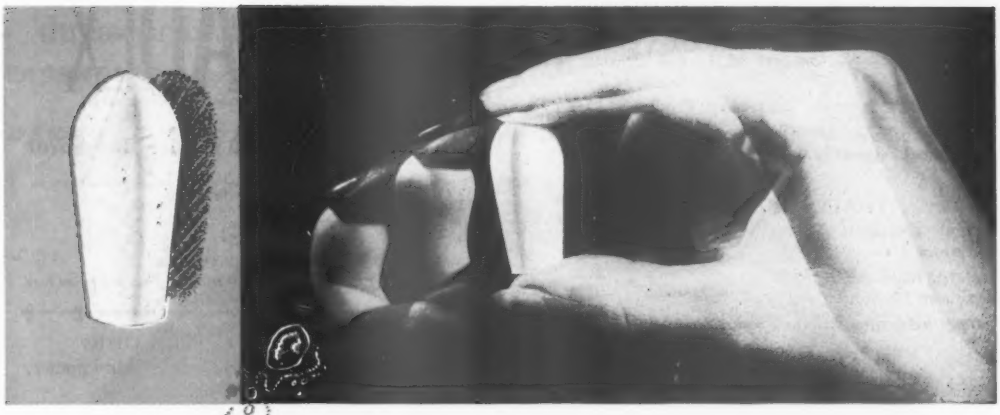

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(Continued on page 246)

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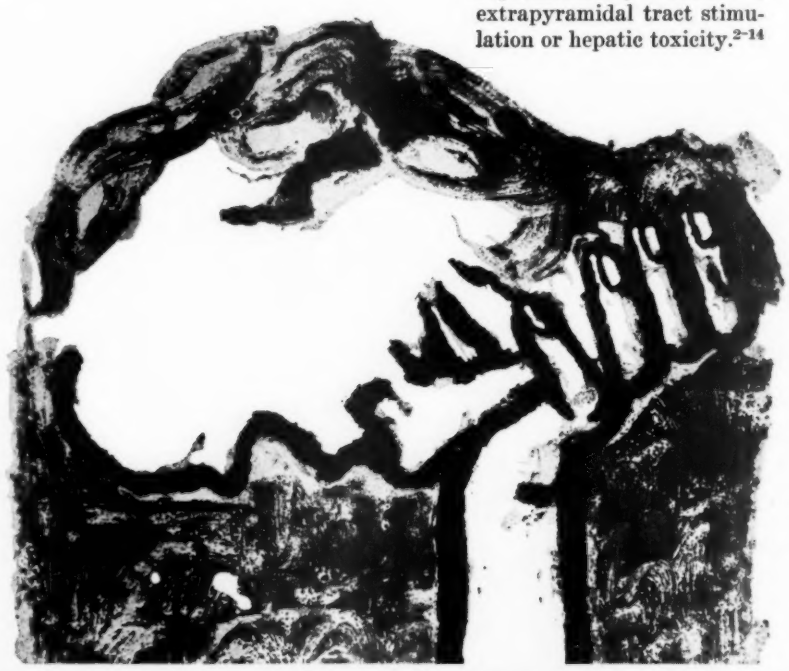

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1. Goodman, L.S. and Gilman, A.: The Pharmacologic Basis of Therapeutics, MacMillan, 1955.

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2. Karnaky, K.J.: J.A.M.A. 157:1155, 1955 (August)
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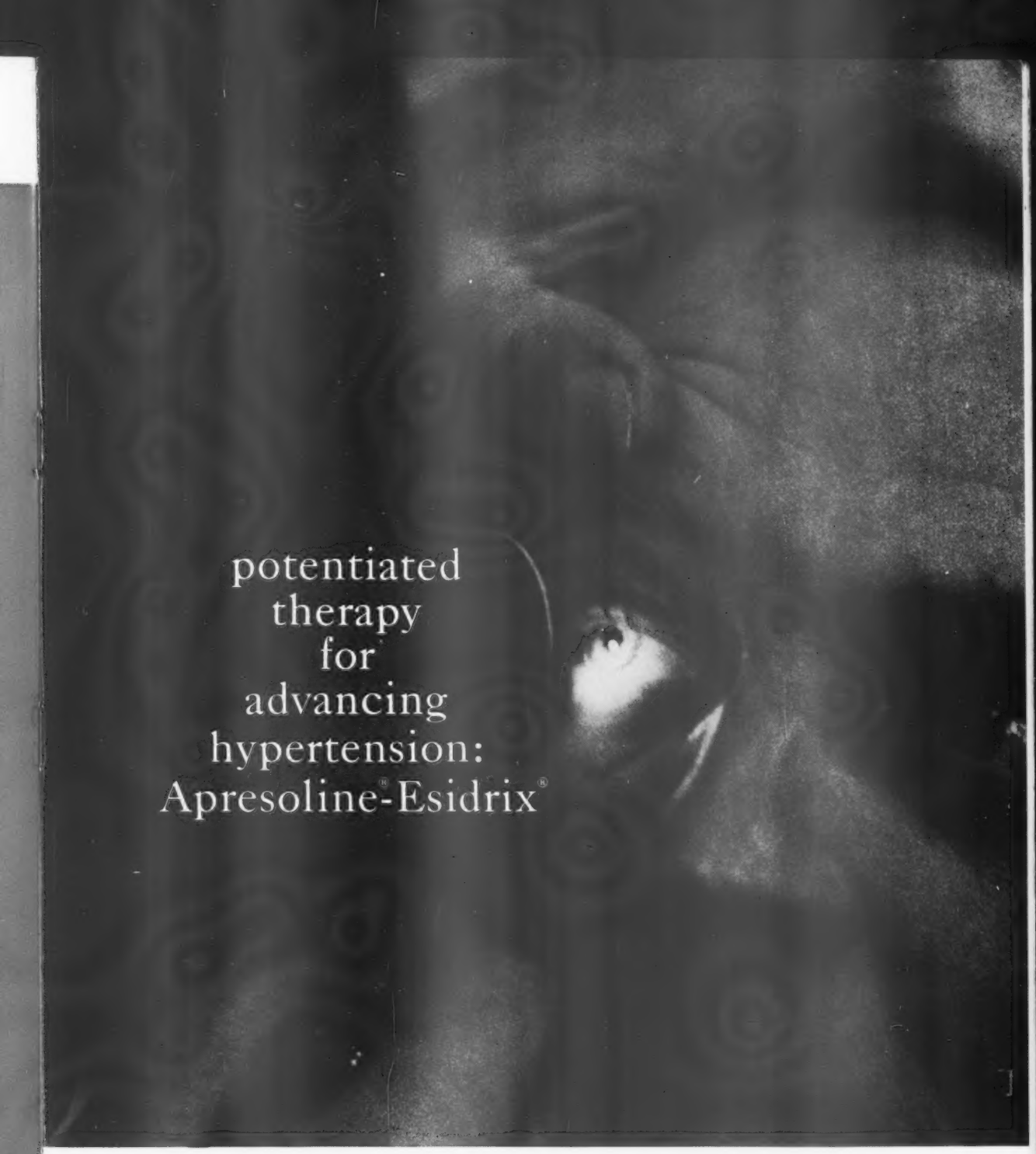

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Journal of the
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Volume 15 MARCH, 1960 Number 3

The Enigma of Serotonin, or 5-Hydroxytryptamine

Esther M. Greisheimer, M.D., Ph.D.

"SEROTONIN" WAS SUGGESTED as the provisional name for a vasoconstrictive substance (later shown to be 5-hydroxytryptamine) found in serum [1] in 1948, but it was not realized until 1952 that this was identical with enteramine.[2] Enteramine is an active principle contained in tissue extracts, especially from the gastrointestinal tract. Of the three names for this identical substance, the chemical name "5-hydroxytryptamine" is coming into general use, and in this paper the abbreviation 5-HT will be used.

When it was reported in 1953 that 5-HT was found in the brain [3] many investigators began to turn their attention to this enigmatic substance with its wide, unrelated distribution. In the same year Lembeck [4] reported finding very large amounts of 5-HT in a carcinoid tumor that had been discovered at post-mortem examination. This observation gave rise to the idea that the large amount of 5-HT secreted by such tumors might be ultimately responsible for many of the signs and symptoms that characterize these malignant tumors.[5] The range of serotonin concentration in the blood of patients with carcinoid tumor is 0.5 to 2.7, as compared with 0.1 to 0.3 μg per cc. in normal individuals.[6]

Dr. Greisheimer is Emeritus Professor of Physiology and Research Professor of Anesthesiology, Temple University School of Medicine, Philadelphia.

METABOLISM OF 5-HT

The source of 5-HT is dietary tryptophane. In normal individuals about 1 per cent of this is oxidized to 5-hydroxytryptophan (5-HTP), which is the immediate precursor of 5-HT. The enzyme, 5-hydroxytryptophan decarboxylase, catalyzes the decarboxylation of 5-HTP to 5-HT and carbon dioxide. This enzyme is highly specific and requires pyridoxal phosphate as cofactor. 5-HT is subsequently oxidized by monoamine oxidase to 5-hydroxyindole acetic acid (5-HIAA) and excreted in the urine.

In patients with carcinoid tumors about 60 per cent of dietary tryptophane (of a daily intake of 500 mg.) is converted to 5-HT. This has been shown by using carbon-labeled

(C^{14}) tryptophane. It is possible that when so much tryptophane is converted to 5-HT there may be a shortage of tryptophane for the synthesis of protein and niacin and the clinical picture may be complicated by these deficiencies.

In normal individuals 2 to 9 mg. of 5-HIAA appears in the urine daily in contrast to patients with carcinoid tumors who excrete 76 to 588 mg. daily.

The increased excretion of 5-HIAA aids in making an early diagnosis of carcinoid tumor, and it may be possible to resect the tumor before metastases occur. However, values above the normal range may be found in fresh thromboses, diverticulosis, or spasm of the colon, gall bladder, or ureter.[7] It has been found also that bananas contain 5-HT in high concentration; therefore, since it is readily absorbed and metabolized, examination of urine for diagnostic purposes should be postponed for at least eight hours after the ingestion of bananas.[8]

METHODS OF DETERMINATION AND ASSAY

Various preparations of smooth and cardiac muscle have been used for the biological assay of 5-HT. However, such methods require great care and much experience and consequently are giving way to physicochemical methods of analysis. The latter are based on ultraviolet absorption, colorimetric assay, spectrophotofluorometric assay, and paper chromatography. Details of the various methods are available.[9]

CONTENTS IN VARIOUS TISSUES AND DIFFERENTIAL DISTRIBUTION IN BRAIN

5-HT is present in all tissues that contain cells belonging to the enterochromaffin system, as well as in the blood, spleen, and some central and peripheral nervous system structures. The distribution of 5-HTP-decarboxylase is the same.

5-HT is present in high concentration in normal blood platelets, where it is protected from the action of monoamine oxidase. It is liberated from platelets during coagulation.[10] The platelets will take up 5-HT from the surrounding solution according to the amount of adenosine triphosphate (ATP) they contain.[11] The ATP probably supplies the energy for the transport of 5-HT into the platelets. The platelets release 5-HT without rupture when reserpine is added in vitro. It is probable that reserpine blocks the transport mechanism.[12]

Twenty-eight specific areas of the human brain have been analyzed for their 5-HT content. The areas associated with autonomic activity have a higher content than other areas.[13] It is an interesting fact that the distribution of norepinephrine and monoamine oxidase, as well as 5-HTP-decarboxylase, parallels that of 5-HT.

5-HT AND COAGULATION OF THE BLOOD

5-HT interferes in some way with the conversion of fibrinogen to fibrin in the presence of thrombin in vitro. It has been suggested that 5-HT interferes with the side-by-side association of the fibrinogen molecules, resulting in the production of a fine clot, with decreased clot opacity.[14]

ACTIONS OF 5-HT

The actions of 5-HT have been described in detail by Page.[15] There is wide variation in the actions of 5-HT, probably because it possesses some structural and pharmacological similarities not only to the sympathomimetic amines but also to histamine.

Arterial Blood Pressure. Page coined the word "amphibaric" to describe the variable effects of 5-HT on arterial blood pressure. The results vary with the species, size of the dose, route of administration, degree of vasomotor tone existing at the moment, and with the anesthetic agent, in case one is being used. In some animals there is a small increase in arterial blood pressure immediately after injection. 5-HT is said to be about one-fifteenth as potent as norepinephrine and from one-thirtieth to one-tenth as potent as epinephrine in its pressor effects. The initial rise is often followed by marked and prolonged hypotension. Injections of 5-HT release histamine, and this may be responsible in part for the hypotension. The blood vessels in skeletal muscles dilate.

Cardiac Output. An injection of 5-HT leads to a rapid and initial fall in cardiac output. This is followed by a steep, prolonged rise, which may reach a level 50 per cent above the control, in unanesthetized subjects.

Pulmonary Circulation. 5-HT is an unusually potent constrictor of pulmonary blood vessels. This precedes a marked increase in pulmonary vascular resistance and pulmonary

blood pressure. 5-HT is much more active than epinephrine or norepinephrine on pulmonary vasculature and may produce a fivefold increase in pulmonary blood pressure. 5-HT causes contraction of the bronchial musculature in some species.

Respiration. When a single intravenous injection of 5-HT is given to dogs, the resulting pulmonary hypertension is accompanied by a bout of hyperpnea, during which there are wide swings in intrapleural pressure. This bout is followed by a period of apnea.

In human beings an injection of 5-HT is followed by an increase in the rate and depth of respiration, which lasts 20 to 40 seconds. The sensations noted by the patient are tingling and numbness of the extremities, flushing of the face, a burning sensation in the throat, and an occasional crampy abdominal pain. In asthmatic patients the same respiratory changes and systemic sensations occurred. There was no wheezing or objective evidence of constriction of the bronchi. The results were not due to the release of histamine by the 5-HT, but probably to stimulation of the central nervous system.[16]

Gastrointestinal Tract. An injection of 5-HT produces nausea, abdominal cramps, and an increase in intraluminal pressure of the human gastrointestinal tract, which means that it increases tone and also stimulates motility.

The enterochromaffin cells secrete 5-HT, which may be considered a neurohumoral agent. The cells are located close to the nerve endings of the enteric plexus, and perhaps 5-HT acts on these nerve endings within the wall of the intestine. But it is still questionable whether the secretion of the enterochromaffin cells normally influences intestinal motility.[17]

Kidneys. 5-HT reduces iodopyracet (Diodrast) and para-aminohippuric acid (PAH) clearances, and inulin and creatinine clearances in man, which means that both renal blood flow and glomerular filtration are decreased. Urine volume and sodium, chloride, and potassium excretion are likewise reduced.[18] The cause of the decrease in urine volume is still a moot point. Some investigators attribute the oliguria to renal vascular changes, but it has been reported that the subcutaneous administration of 5-HT in rats leads to a decrease in the neurosecretory substance in the magnocellular cells of the supraoptic and paraventricular nuclei of the hypothalamus, and also to a decrease in the neurosecretory substance in the posterior lobe of the pituitary. This favors the view that the decrease in urine production after 5-HT administration is due to the release of the antidiuretic hormone rather than to the change in renal blood flow.[19] Some authors state that antidiuresis occurs only if the dose of 5-HT is large enough to produce a stimulation of respiration.

Nervous System. The fact that there is a parallel distribution of 5-HTP-decarboxylase and 5-HT in the brain is considered an indication that 5-HT synthesis occurs in the central nervous system. 5-HT itself is not able to cross the blood-brain barrier, but its precursor 5-HTP is able to do this. When 5-HTP is administered it crosses the barrier and is converted to 5-HT, thereby raising the level of 5-HT in the brain. High levels are also maintained in other tissues in which 5-HT occurs normally.

Brodie[20] suggests that there may be two opposing systems in the hypothalamus, which he calls ergotropic and trophotropic. These may integrate functions not under voluntary control. It is possible that the ergotropic system stimulates the sympathetic nervous system, increasing the activity of skeletal muscles, inducing arousal, and activating psychic states. The trophotropic system, on the other hand, may stimulate the parasympathetic system, decreasing motor activity, decreasing the sensitivity to external stimuli, and producing drowsiness resembling natural sleep in a few respects. 5-HT can be considered a regulator of the trophotropic system, perhaps in the role of transmitter at synapses, while norepinephrine may play a similar role in the ergotropic systems.

Vogt,[21] in her studies of drugs that influence the central actions of 5-HT, found that when 5-HT is injected into a lateral ventricle of an animal there is a reduction of the amplitude of the electroencephalogram and a slowing of the frequency in some areas. But the frequency remains fast in the hypothalamus. In the bulbar region of the reticular system there were long bursts of high amplitude and fast activity. The results were the same whether 5-HT was given by vein or directly into a lateral ventricle. Bradley[22] observed the electroencephalogram and the behavior of cats who were conscious when an injection of 5-HT was given. Licking and swallowing movements continued for 5 to 15 minutes. Then the animals sat quietly with eyes open.

Even though they were not asleep, they did not respond to stimuli that normally aroused them. There was no change in muscle tone, but when they were made to walk the gait was slow and swaying. His observations showed an electroencephalogram of low amplitude and fast activity during the first 5 to 10 minutes. After this, drowsy and alert patterns alternated. A stimulus elicited the normal alterting electroencephalographic response, but there was no change in behavior.

When 5-HTP was injected into rabbits the highest concentration of 5-HT was found in the hippocampus, medulla, and pons. A decrease in the amplitude of the electroencephalogram gradually occurred between 30 and 60 minutes after the injection. The hippocampal theta rhythm disappeared at this time.[23]

5-HT is the most potent pain-producing agent whose composition is known.

ANTAGONISTS AND ANTIMETABOLITES OF 5-HT

As mentioned earlier, there is some antagonism between 5-HT and norepinephrine.[24] This is understandable if the suggestion that they are chemical mediators of mutually antagonistic centers is correct.

Lysergic acid diethylamide (LSD) is the most powerful and highly specific antagonist of 5-HT examined to date. It inhibits the peripheral effects of 5-HT on smooth muscle, and, so far as the central nervous system is concerned, when LSD is given in very small doses, it is said to produce temporary madness. If this is the case, it is quite possible that the 5-HT in our brains plays an essential role in keeping us sane. Some investigators suggest that 5-HT has an important role to play in mental processes and that if its action is suppressed mental disorders occur.[25]

The interaction between LSD and 5-HT is not a simple competition for the same receptors within the brain, because LSD antagonizes only part of the central effects of 5-HT and at the same time strengthens other effects.[21] The question of whether LSD causes mental disturbances because it depletes the brain of 5-HT is unsettled. Some authors think the disturbances caused by LSD are due to an accumulation of 5-HT because of the inhibition of monoamine oxidase. It has been suggested that the action of LSD is the result of blocking transmission in the parasympathetic centers by interfering with the action of 5-HT at synaptic junctions. It is evident that much more investigation needs to be done.

Another antagonist of 5-HT is BAS (1-benzyl-2,5 dimethyl serotonin). It is effective either in vivo or in vitro. The suggestion has been made that BAS prevents the action of 5-HT by displacing it from receptor sites.[26]

Some chemical compounds, such as nicotinamide, are antimetabolites of 5-HT. They produce some of the signs of mental disturbance, but whether this is due to a deficiency or to an excess of 5-HT is still unsettled.[27]

AGENTS DECREASING THE CONCENTRATION OF 5-HT

Amphetamine reduces the level of 5-HT in the brain to 50 per cent of the control level.[28]

The *Rauwolfia* alkaloids, which produce sedative effects, of which reserpine is the most powerful, release 5-HT from cells in the brain, gastrointestinal tract, and from platelets. A dose of 1 mg. per Kg. of body weight of reserpine releases about 75 per cent of brain 5-HT within 30 minutes. Although reserpine as such disappears from the body within a few hours after administration, its effects linger on for about 36 hours. This means that the level of 5-HT in the brain remains low for this length of time and then begins to rise, gradually requiring about one week to reach the control level. It is possible that the effects attributed to reserpine are really due to free 5-HT, which it releases, and that this free 5-HT may stimulate the central parasympathetic division and produce sedation. It seems as if reserpine interferes in some enduring way with the capacity of the brain cells to store 5-HT.

The action of reserpine is not limited to 5-HT; it releases also the catechol amines, depleting brain and adrenal medullae. It releases norepinephrine peripherally as well.[20]

AGENTS PERMITTING INCREASE OF 5-HT

Iproniazid specifically inhibits the action of monoamine oxidase in the brain, permitting the concentration of 5-HT in the brain to rise to two or three times the control level within three to five hours after administration. It is reported that no increase is found in other depots.[29]

COMMENT

5-HT remains an enigma. Even the most

recent reports do not solve the mystery. It has a stimulating action on the nonpregnant human uterus.[30] Massive resection of the gastrointestinal tract is followed by a fall in the concentration of 5-HT in serum and of 5-HIAA in the urine.[31] Additional examples of antagonism and synergism between 5-HT and the catechol amines add to the confusion.[32]

5-HT does seem to be a humoral antagonist to the vascular tone maintained by the vasomotor nerves. In this respect it is a chemical buffer. It does influence autonomic functions of the brain, particularly those concerned with bodily expression of emotion. Since these are the same areas that are primarily affected by the tranquilizing drugs, perhaps the interaction between 5-HT and such drugs is important. There is no definite proof that 5-HT controls normal mental processes. We are not justified in assuming such a function from the changes in behavior that follow the injection of it into animals.

Even if 5-HT is shown to be the transmitter of nerve impulses in the central parasympathetic system, its function in the gastrointestinal tract needs to be elucidated. Is it transported in the platelets so that it will not be rapidly destroyed by monoamine oxidase? Are the right-sided heart lesions found in some patients with carcinoid tumors really due to the high level of 5-HT in the blood? It is evident that much more work needs to be done to solve the enigma of 5-HT, and this report merely calls to our attention the abundant speculation that is being given utterance at present.

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JEAN CRUMP, M.D.

Guest Editor

Dr. Jean Crump, Guest Editor of Branch Twenty-Five, Philadelphia, Pennsylvania, is Emeritus Professor of Pediatrics, Woman's Medical College of Pennsylvania, from which she graduated in 1923. After two years of internship, and graduate study in cardiology with Dr. Thomas McMillan at Philadelphia General Hospital and diseases of children with Dr. Emily Bacon at Mary Drexel and the hospital of the WMC, she was appointed instructor in pediatrics at WMC. She advanced rapidly to associate professor and, on the retirement of Dr. Emily Bacon, became professor and head of the Pediatric Department. She is chief of the Pediatric Service of the Woman's Hospital of Philadelphia.

In 1929 Dr. Crump did postgraduate work under Dr. Kenneth Blackfan at Children's Hospital in Boston. She worked under Dr. Horace Jenks in the Cardiac Clinic at the Children's Hospital of Philadelphia and in the Tuberculosis Clinic at WMC, handling the children under Dr. Isabel M. Balph. She also conducted a special clinic at the Franklin School, Philadelphia, to study the value of preschool examinations and correction of defects for the Philadelphia Child Health Society from 1927 through 1929. She has been consulting pediatrician for the Society for Prevention of Cruelty to Children.

In 1932 she was appointed assistant chief in pediatrics at St. Christopher's Hospital for Children and after serving two years was made chief of one of the three services. She organized and established an allergy clinic for children that rapidly developed into a very large allergy service. In 1936 she was appointed associate in pediatrics at the University of Pennsylvania, assigned to allergy, under Dr. Richard Kern. Today she is treating the children of her former young patients with asthma.

Dr. Crump has written numerous papers on the diagnosis and management of the allergic child.

She has been president of the Alumnae Association of WMC (1949-1950), president of Branch Twenty-Five, AMWA, and chairman of the Finance Committee and the Scholarships Committee of AMWA.

She is a past president of the Philadelphia Allergy Society, president of the Pennsylvania Allergy Society, and chairman of the Allergy Committee of the Philadelphia Pediatric Society.

Her success in the treatment of the allergic child stems from her knowledge of the manifestions of allergy in the child, her skill in technical procedures, and her understanding and love of every little patient.

—Frieda Baumann, M.D.

Basic Facts in Diabetes and Pregnancy

Anne Gray Taylor, M.D., and Dorothy Macy, Jr., M.D.

THE MANAGEMENT of the diabetic mother throughout pregnancy and parturition, and of her infant during the neonatal period, may be simple or difficult. In well-modulated diabetes of short duration, without degenerative vascular changes and without renal pathology, the situation is usually simple. When degenerative vascular disease, renal disease, or both are present in the mother, these lesions affect deleteriously both the diabetes and the pregnancy. The latter is converted from a normal function into an excessive stress upon impaired maternal organ systems; it is presumably because of this that the fetus is affected. Degenerative vascular disease and renal pathology are each more common in the diabetic than in the nondiabetic person. The complications that these morbid processes may engender in a pregnancy, their management, and the sequelae for the newborn infant are no different in the presence than in the absence of diabetes in the mother. What is different is the plurality of processes that may coexist and interact.

DIABETES

Nondiabetic, nonpregnant women have blood glucose levels that range from 65 to 150 mg. per 100 cc. (Folin-Wu) under the usual conditions of exercise and eating.[1] The most typical blood glucose value for women at any time is 86 to 96 mg. per 100 cc. (Folin-Wu). In the fasting state, nondiabetic pregnant women most commonly have blood glucose values in the range of 70 to 90 mg. per 100 cc. (Folin-Wu).[2] It seems reasonable, therefore, to allow diabetic mothers who do not require insulin a blood glucose range of 65 to 200 mg. per 100 cc. (Folin-Wu), and those who do require insulin a range of 100 to 200 mg. per 100 cc. (Folin-Wu). Exogenously administered insulin has an inexorable action because it is absorbed rather than secreted in response to need. If the blood glucose level is permitted to fall as low as 65 mg. per 100 cc. (Folin-Wu) as a result of exogenously administered insulin, exercise at that point could precipitate absolute hypoglycemia. Limitation of blood glucose fluctuations to a range of 100 mg. per 100 cc. is feasible in the majority of insulin-taking diabetic patients; in the more severe cases, a range of 150 mg. per 100 cc. may have to be permitted if hypoglycemic periods are to be avoided. Among nondiabetic persons in the postabsorptive state, fluctuations (within minutes) of the venous blood glucose level with a range of about 50 mg. per 100 cc. have been reported.[3] Ranging blood glucose within such limits is not only normal but may even be a necessary feature of glucose economy. Excessive swings should be modulated as far as possible toward this range.

In most individuals 100 Gm. carbohydrate per day is sufficient to avoid ketosis.[4] Because of glucosuria, one allows a minimum carbohydrate intake of 125 Gm. per day for a diabetic individual. During pregnancy, when the renal threshold for glucose is lowered,[5] this minimum should be raised to 150 Gm. carbohydrate per 24 hours even when alimentation must be by the parenteral route. Minimal carbohydrate intake to prevent the ketosis of fasting is given here as a reminder only—minimal nutrition is not an adequate goal during pregnancy. The total daily caloric requirement during pregnancy is approximately 40 calories per Kg. of body weight; the protein requirement is 1.5 Gm. per Kg. To meet the caloric and protein requirements within the bounds of palatability, the final dietary prescription may need to be as high as 4 Gm. carbohydrate and 2 Gm. fat per Kg. of prepregnancy weight. This brings the fat allowance above 100 Gm. per day for most women. However, caloric deprivation is not tolerated during pregnancy or lactation, and the insult to the patient as a whole of such deprivation

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takes precedence over the insult to the diabetes of continued obesity or the questionable insult to the vasculature of fat in excess of 100 Gm. daily. Total weight gain during pregnancy should not exceed 15 lb.

Urine cannot be concentrated beyond the point at which its osmotic pressure just balances the absorbing power of the renal cells.[6] Therefore, glucosuria may at times result in an obligatory diuresis. Diuresis may be associated with a loss from the body of various water-soluble substances, presumably because of overloading of reabsorptive tubular mechanisms. What part this actually plays in the need of diabetic persons for more water-soluble vitamins than are required by nondiabetic individuals is not known, but the fact of water-soluble vitamin and mineral wastage during diuretic states should not be overlooked. It is usual to prescribe one and one-half times the minimal daily requirement of B and C vitamins for diabetic patients. When the diabetic woman is pregnant, one and one-half times the usual pregnancy requirements of both water-soluble vitamins and minerals should be given. Vitamins A, D, and K are not water-soluble and their requirement is the same as for pregnancy in a nondiabetic woman, with one condition: the carotenemic diabetic patient should receive vitamin A as such, not in the form of its precursors.

DEGENERATIVE VASCULAR DISEASE

At the present time we neither know the causes of nor have any specific treatment for degenerative vascular disease. Certain conditions are thought to aggravate or to accelerate such changes: hypertension, hyperadrenocorticism, myxedema, renal disease, stress, diabetic ketosis, high-animal-fat intake, the combination of high-protein and high-sodium-chloride intake, and diabetes itself. Hypertension and renal pathology are more common in the diabetic than in the nondiabetic patient, and these play their own part in addition to ketosis and to diabetes itself in contributing to degenerative vascular disease among diabetic individuals. The role of diabetes per se appears to be facilitation of the occurrence of vascular degenerative change.

Calcification is a sequel to lipid deposition; when calcification is present, the lesions are relatively old. Lesions of functional significance may be present well before vascular changes are radiographically demonstrable. Usually the earliest detectable vascular lesions are retinal; such early lesions are not proof of generalized vascular disease, but by the time retinal lesions are permanent some degree of generalized vascular pathology is most often present. Unfortunately, the absence of retinal lesions is not an indication of the absence of vascular disease elsewhere. With these limitations in mind, transitory retinal changes suggest the probability of active vascular disease elsewhere and place the patient in the category of having early degenerative vascular change. Because the early lesions are transitory—their entire course may be run in three weeks, and they leave no residua—they are commonly missed. The lesions themselves are the usual ones: microaneurysms, with or without hemorrhage, and exudates that are small, white, glistening, and usually ovoid in shape. When the softer, irregular, white exudates of renal disease and the flame-shaped hemorrhages of hypertension occur, the import for pregnancy, as usual, is grave.

Therapeutically, the most we can do today is to treat the conditions known to contribute to vascular degeneration when these are present. Their treatment does not differ in the diabetic and nondiabetic pregnant woman. The existence of pregnancy, however, emphasizes a cardinal therapeutic point: the correction of one extreme is not the adoption of its opposite. An example of that type of error is the prolonged severe sodium restriction that may lead to hypertrophy of the zona glomerulosa of the adrenal cortices with increased production of sodium-retaining hormone, thus nullifying its purpose.

RENAL PATHOLOGY

Pyelonephritis is a common lesion; it is more common among women; it is additionally more common during pregnancy; and it is very common among diabetic women who have been or are pregnant. When involvement of the renal pelvis is minimal, the classical signs of pyelitis (fever, chills, and pyuria) are usually absent. During its latent periods, pyelonephritis may be present without even costovertebral angle tenderness.

Nephrosclerosis, primary or secondary to the scarring that occurs with pyelonephritis, is also more common in the diabetic than in the nondiabetic patient. If hypertension is present, or if there is pyelonephritis, it is statistically safe to assume that nephrosclerosis is

present in the diabetic patient; when both hypertension and chronic pyelonephritis are present, statistical safety becomes certainty.

True intercapillary glomerulosclerosis is a lesion almost but not entirely limited to diabetes. After 10 to 14 years of diabetes, 64 per cent of those with diabetes show this lesion[7]; in juvenile diabetes of long duration, it is present in almost 100 per cent.[8] Sufficiently widespread intercapillary glomerulosclerosis, such that this lesion alone results in renal insufficiency, however, is not common.

If one of these lesions is present in the kidneys of a diabetic patient, the other two are usually also present, at least to some degree, and the three together account for the total clinical picture. It is for this reason that the Joslin Clinic group have labeled this triad "diabetic nephropathy."

Nephrosclerosis and intercapillary glomerulosclerosis are degenerative changes for which no specific therapy is available. In the presence of diabetic nephropathy, then, attention centers on the pyelonephritis. Insofar as active pyelonephritis may contribute to progression of nephrosclerosis and intercapillary glomerulosclerosis, treatment of pyelonephritis is also treatment of the triad. The first point is to suspect that pyelonephritis is present: unexplained mild anemia, vague malaise, fatigability, repeated transitory retinal lesions, nocturia not associated with hyperglycemia, and insulin requirement in excess of 1 unit per Kg. of body weight may be the only symptoms or signs, and any one of them is sufficient reason to take a urine culture. Microscopic examination of the urine may be within normal limits even, sometimes, during a mild exacerbation of chronic pyelonephritis (continuity between inflammatory focus and the renal collecting system must exist before microscopic findings can be "positive"). Quantitative colony counts are necessary for the precise diagnosis of pyelonephritis. Usually, several infecting organisms are present simultaneously, although one commonly predominates.

Eradication of multiple diffuse foci of infection from renal parenchyma is difficult. Suppression of the bacterial population, however, is feasible even in the diabetic person. It requires intermittent therapy over long periods of time. Readily absorbed sulfonamides, when these agents are tolerated by the patient, have given the best over-all results in our hands. We use an initial 4 Gm. priming dose followed by 1 Gm. four times daily thereafter (but without waking the patient at night) for a minimum of three weeks. After a rest period of six weeks, the treatment regimen is repeated as before. When six successive urine cultures at weekly intervals have been negative, treatment is stopped. Since almost any of the currently available antibiotics will render urine sterile for a period up to 10 days, the first cultures should be taken no sooner than two weeks after the last dose of antibiotic or antibacterial drug. Possibly because of the mixed nature of the infection, in vitro sensitivity studies have not correlated well with in vivo results.

An increased incidence of hydramnios, preeclampsia, eclampsia, intrauterine death, hyaline membrane disease, and neonatal mortality is associated with renal pathology.

PREGNANCY

In well-modulated diabetes of short duration, without degenerative vascular disease and without renal pathology, pregnancy runs a usual course and the diabetes itself does not become irreversibly "worse." Such patients usually are able to go to full-term spontaneous vaginal deliveries of normal infants. To achieve this result, however, blood glucose must be modulated and the nutritional needs of both the diabetes and the pregnancy must be fully met. Widely fluctuating blood glucose levels (both up and down) have a promptly deleterious effect on mother, fetus, and diabetes.

When degenerative vascular disease or renal disease is so advanced as to be readily diagnosed, the situation carries all the hazards to pregnancy that are common to these conditions. In a diabetic patient, when one condition is present, the other is all too likely to be present as well. These are the cases with high maternal morbidity, the ones in which fetal overgrowth is the rule, and the cases in which death in utero is common. Neonatal morbidity and mortality are high. Hydramnios is common and is also usually the earliest obstetric abnormality to appear in the course of the pregnancy. As soon as it appears, diuretic therapy should be instituted, but such therapy should not be extreme. It is usually sufficient to forego added salt in the cooking and at the table and to use diuretic agents intermittently. Ammonium chloride, acetazolamide (Diamox), and chlorothiazide (Diuril) are all suitable. The serum electrolyte pattern should

not be distorted by overly enthusiastic diuretic therapy. Occasionally, one finds in association with hydramnios an absence of the normal pregnancy increase in thyroid function; in such instances, thyroid supplementation is indicated.

Because death in utero is common when degenerative vascular or renal disease is present in the mother, special attention should be given to the fetal heart rate and to fetal movements. Early asphyxial states are associated with increased fetal heart rates; late ones are associated with cessation of fetal movements. Prolonged fetal tachycardia or diminished fetal movements for 24 hours once they have been well established is an indication for immediate hospitalization and probable delivery if the pregnancy is in the twenty-eighth week at the least. Since fetal overgrowth is usual, one plans to deliver these patients about three weeks prior to term in any event. At that time it is often possible to induce labor, and the infant is of a size to permit vaginal delivery. Maternal diabetes alone is not an indication for cesarean section; indications for section are the usual ones: cephalopelvic disproportion, necessity for immediate delivery (for either fetal or maternal indication), and previous section (because of danger of rupture of old scar). One point is very important during labor and delivery: diabetic women do not tolerate narcotics well and neither do their offspring in utero.

The majority of diabetic mothers will fall into a middle group between the two extremes mentioned. They may have transitory retinitis alone, pyelonephritis alone, a history of either or both but no evidence of permanent pathological changes, labile diabetes without other overt pathology, and so on. Many of these women support pregnancy well, but there is still an increased tendency toward hydramnios, intrauterine death, and fetal overgrowth, as well as an increased infant morbidity and mortality. It is safest to plan to deliver these women three weeks prior to term, although, if at that time there is no obstetric indication for delivery and the medical condition of the mother is good, one can continue close observation in the hospital and await the occurrence of spontaneous labor.

The most common cause of ketosis in the pregnant diabetic woman is simple starvation (that is, carbohydrate lack not conditioned by insulin lack) such as may occur with the nausea and vomiting of early pregnancy, with hyperemesis, during prolonged labor, and with the anorexia commonly associated with acute episodes of pyelonephritis. A pregnant diabetic woman must receive a minimum of 150 Gm. carbohydrate every 24 hours to prevent the ketosis of fasting. There is no exception to this requirement. Both ketosis and hypoglycemia are accompanied by depression of cerebral respiration; whether this has its counterpart in the fetus is not known, but the incidence of intrauterine death is increased in both situations so that either is to be avoided.

When there is a demonstrable endogenous maternal hormone deficiency, appropriate exogenous hormone replacement therapy is essential. Routine hormonal therapy during pregnancy in the diabetic woman has not decreased either maternal morbidity or fetal morbidity and mortality below the levels achieved by good medical and obstetric care.

THE NEWBORN INFANT

The morbidity (from which mortality stems) among newborn infants of diabetic mothers is presumably a reflection of aberrations of maternal physiology. Long-term aberrations may be the result of established degenerative vascular changes and nephropathy. Short-term aberrations, however, may also play a part, and the closer the pregnancy is to term the more profound the physiological effect upon the fetus.

The most common short-term maternal physiological aberration is a widely fluctuating blood sugar level. There are four aspects to this problem: hyperglycemia, hypoglycemia, their frequency, and their intensity. The physiological stimulus to insulin release is a rise in the blood glucose level; one stimulus to its formation is its depletion. The physiological stimulus to glucagon release is a fall in the blood glucose level; and, again, one stimulus to its formation is its depletion. Pancreatic islet tissue is present in the human fetus at 19 weeks[9]; specific granules are found at 6 lunar months (31 cm.).[10] Therefore, after 6 months both hyperglycemia and hypoglycemia presumably may stimulate islet function in the fetus. The frequency and intensity of such stimulation would determine the ultimate result: normal function, chronic hyperfunction, or exhaustion; normal size, hypertrophy, or atrophy of islets. Two active hormones and two opposing physiological states are involved. The situation at birth,

therefore, may be one of several: apparently normal function, overreactivity in respect to either insulin or glucagon, underreactivity in respect to either insulin or glucagon, or even congenital diabetes (very rare, but may occur). When overreactivity or underreactivity are involved, the newborn infant tends to adjust spontaneously in time because the abnormal stimulus is removed at birth. Meanwhile, protection against either hyperglycemia or hypoglycemia is necessary only when either of those states is extreme (that is, potentially lethal); overprotection will simply perpetuate the abnormal stimulus and its sequelae.

Work now in progress by Dr. Helen Reardon of Temple University School of Medicine, Philadelphia, has furnished the following interesting and highly provocative data[11]:

> At the time of delivery, chemical studies of the blood of diabetic mothers revealed hypoproteinemia and hyperglycemia as compared with the control group delivered by the vaginal route. Chemical studies of blood obtained from the umbilical cord of their infants who subsequently became ill revealed more severe acidosis (decreased plasma *p*H and increased pCO_2, hypoproteinemia, hyponatremia, and hyperglycemia as compared with the control group delivered by the vaginal route.
>
> At 4 hours of age infants of diabetic mothers with respiratory distress had respiratory acidosis as indicated by a decrease in plasma *p*H and increase in pCO_2. These data are interpreted as evidence of pulmonary hypoventilation and hypoxia. The concentration of glucose in blood obtained at 2, 3, 4, and 24 hours of age was decreased significantly (0.01) as compared with healthy infants (controls) and represents true hypoglycemia. Mean values for plasma sodium, protein, and hematocrit were also significantly (0.01) lower in the sick infants than in healthy infants (controls).
>
> In those infants of diabetic mothers who survived, hypoglycemia, hypoproteinemia, and hyperkaliemia were often noted on the fourth to sixth day of life. Both the etiology of the chemical changes and their significance in respect to newborn morbidity and mortality remain to be evaluated. However, the chemical abnormalities may represent the results of both long-term and short-term maternal physiological aberrations.

At the present state of our knowledge, the use of oral antidiabetic agents during pregnancy appears to us to be contraindicated, primarily because of their possible effects upon the fetus. The sulfonylurea derivatives are thought to have as their main actions the capacity to cause increased insulin secretion from the pancreas, to prolong the action of insulin (endogenous or exogenous), and to inhibit hepatic glucose output. Phenethylbiguanide is thought to promote anaerobic glycolysis and to inhibit certain oxidative systems. Because these are very fundamental biochemical mechanisms, we question the wisdom of possibly interfering with them in the developing embryo.

SUMMARY AND CONCLUSIONS

Our purpose in presenting this simple review of some of the physiological and pathological features of diabetes and pregnancy is to emphasize the restrictions of adaptability that may be present as a result of certain disease processes commonly occurring in the diabetic patient, and to suggest that it is largely the combination of processes that determines the outcome of the pregnancy. When such disease processes are present, the load on organ systems known to be impaired must be minimized as far as possible. Specific measures will vary from patient to patient and from pregnancy to pregnancy in any one patient. The lost adaptability must be compensated for by alert therapy that does not itself impose an extreme stress and that is not itself so rigid as to restrict further the adaptive mechanisms of either mother or child.

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Allergy in the Child from Birth to One Year of Age

Jean Crump, M.D.

DIAGNOSIS AND TREATMENT of allergic infants from birth to 1 year of age present problems that differ somewhat from those of older children.

The incidence of allergy in this age group is probably greater than the recorded cases indicate, for many cases go unrecognized and some physicians are unwilling to make such a diagnosis. Allergic problems may appear within a few hours after the birth of the child or may not become manifest until the baby is 6 or 8 months of age. The author has seen 2 infants who began wheezing before they were 24 hours old in whom bronchospasm was definitely proved.

In reviewing my cases, as well as some of those reported in the literature, eczema was found to be the most frequently encountered expression of allergy in the first year of the child's life. However, gastrointestinal allergy, asthma, and occasionally hay fever were encountered not infrequently. Spear,[1] in a study of 152 patients, found that gastrointestinal allergy was the most important type of atopy encountered in the infant. He reported asthma in 21 per cent, nasal allergy in 16 per cent, and gastrointestinal allergy in 50 per cent. Vaughan,[2] in an excellent article on allergy in early infancy, states that allergic phenomena can be demonstrated in the gastrointestinal tract, skin, and respiratory tract, an opinion with which I concur. He believes, however, that gastrointestinal allergy should be considered a food intolerance rather than a true allergy because of the following: 1. He can rarely obtain objective evidence of the offending agent. 2. Reactive tendency often disappears in a few months. 3. Relationship of these reactions to more typical allergic manifestations in later childhood or adult life is uncertain. The author is not entirely in agreement with all his findings but agrees that antibiotic therapy is contraindicated.

Wood and Walker[3] reported that in 150 infants diagnosed as having inhalant allergy the symptoms occurred at the following ages: 3 months, 22 per cent; 3-6 months, 44 per cent; and 6-12 months, 34 per cent. They state that 100 per cent of their patients exhibited vasomotor rhinitis, and they included as an allergic manifestation "recurrent otitis media." In my experience of more than 30 years of hospital and office practice I have almost never seen allergic rhinitis unless it was associated with infection and rarely have seen recurrent attacks of "otitis media" that might be on an allergic basis. If all acute and recurrent upper respiratory infections including the common cold are to be considered manifestations of allergy, the statistics on the incidence of allergy in infancy would necessarily have to be greatly increased. The author recognizes that the allergic child is very susceptible to acute upper respiratory infections but hestitates to classify the common cold as a true allergic phenomenon. In my office practice I have seen many more infants under 1 year of age with asthma and eczema than any other combined expression of allergy.

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PREVENTION

Prevention in allergy as in any pediatric work cannot be stressed too strongly. Unfortunately we do not have a great deal to offer

in this field. Obviously, if one or both parents are allergic or have allergic backgrounds, the infant may demonstrate allergy in any form.

Bret Ratner [4] (the eminent pediatric allergist of New York—now deceased) and I have discussed the problem of allergy in children many times and were in exact agreement that prevention plays as important a role in allergy as in other pathological conditions. The first and the most important preventive measure is: Do not give the newborn infant any food until he has reached his third day of life. This, of course, follows the routine established by nature. The mother does not have any breast milk until the third day and the artificially fed baby should not have any milk either until then. This statement may be modified to say that the baby, whether to be breast fed or bottle fed, may have a little sugar solution of some kind. The baby, of course, goes regularly for breast feeding, if possible, since colostrum does not seem to cause any allergic reaction.

Unless the background of the newborn infant is known, it should be assumed that there may be allergy somewhere in the child's family and treat him accordingly. Over and over again on a second or third visit the mother reports that the baby's grandmother or some other relative has some allergic problem. Because of such occurrences in my office, I now handle all babies as potentially allergic patients.

There are other factors almost as important as the feeding of the child during the first three days of life in trying to prevent the development of allergy: 1. Do not add vitamins to the child's feeding until he is 3 to 4 weeks old, and then start with only one drop, increasing dosage by one drop at a time. It may be necessary to try more than one preparation before you find the one the baby can tolerate. 2. Do not add other foods to the child's diet until he is 3 or 4 months old unless he is not gaining weight. 3. Add only one new food at a time and begin with a small quantity of each new food; keep this schedule for five to seven days before adding another food. 4. Environmental factors are difficult to manage, but exposure to or contact with allergenic material such as rugs, bedding, and clothing must receive careful attention. It is essential that no sprays or moth preventatives be used unless there is absolutely no chance of the baby's inhaling any of the fumes. 5. Even young infants occasionally require nose and throat surgery. If it is at all possible, no such surgery should be performed when there is pollen flying in the air.

DIAGNOSIS

Skin testing, either cutaneously or intracutaneously, is frequently of very little value in infants. Successful management of the case is based on the history. In the very young child, that is, during the first month of life, I subscribe to the statement made by Glaser[5]: "Skin testing is almost never necessary or of practical value, although conceivably it might have some purpose in the case of a breast-fed infant developing allergy as a result of some antigenic food or other substances passing through with breast milk."

Some allergists advocate cutaneous tests and some intracutaneous tests. When these must be used, I like to try cutaneous tests first. This method, unfortunately, is rarely helpful except in an occasional case, and it is usually necessary to do intracutaneous tests also. However, every method of testing may prove entirely unsatisfactory and a trial and error method to establish the diet becomes essential.

MANAGEMENT AND TREATMENT

Every pediatric allergist has his or her own method of feeding the newborn baby after its third day of life. All of us, of course, prefer breast feeding if it is possible. Unfortunately, many of the mothers are often unwilling or unable to nurse the baby so that we are forced to use some type of artificial feeding. If a history of allergy is elicited, we must proceed cautiously.

Glaser [5] is perhaps the strongest advocate of soybean milk, and the present author has had some very satisfactory results with this preparation. Other pediatric allergists may prefer evaporated milk, acidified milk, or various other milk substitutes. My method of choice is to try the baby on a cow's milk formula. The child's toleration to a sugar preparation is occasionally a problem and can only be determined by trial and error.

Colic. Colic is often the earliest problem that is seen in the pediatrician's office, although it may not have been preceded by the problem of finding a satisfactory formula for the infant. For the author it has been a very simple problem to handle. I put the baby on

a lactic acid formula (three drops or occasionally four drops to an ounce of milk) and add a routine amount of sugar. Karo has been found most satisfactory. I always hesitate to make this statement, but it is a fact that in 48 hours or less all of my patients have been free of colic. Perhaps we should question colic as being a true allergic manifestation, but I do not know how to classify it in any other way and certainly many allergists include it in this category.

Eczema. Eczema may be very mild or very severe when it is first seen by the allergist. Often the baby has been to three or four physicians before it arrives in my office. The mother of a baby with eczema seems to be the most easily discouraged mother encountered in allergy work. The physicians who have seen the child previously have tried many ointments and many diets with varying results. Some of the babies have been tested and some have not been tested. I am sure the question of the value of testing always arises in the pediatric allergist's mind. Unfortunately, as stated previously, negative results have been more common than positive findings.

How are babies with eczema or asthma handled? Regardless of the child's presenting symptoms, the author attempts to show the mother how to prepare a bedroom that is free of allergenic material, that is, a dust-free room and a bed equipped with nonallergic bedclothes. Most mattresses have rubber coverings so they are no longer an important factor. Pillows are always excluded. No rugs are allowed except one cotton wash rug that does not throw any lint. The baby should remain in this room until the physician has an opportunity to study the environmental factors of the other rooms in the house. The child who has a skin condition should never be handled unless the adults are wearing washable cotton gowns. Visitors should be excluded unless this same routine is followed and unless they are free of colds or other infections. At this point let me emphasize that this spartan routine is rarely carried out except in the early treatment of the child.

The baby with eczema is usually very restless due to the itching. The family usually wants something to put on the baby's skin to stop the itching and scratching. What do we advise them to do? It is a difficult problem. The dermatologists and allergists all have certain skin ointments and lotions that have given some satisfactory results. The literature on eczema will supply many preparations. Like others who work with allergic children, I too have my own favorite prescription that cannot be found in textbooks:

	Full Strength	Half Strength
Carboneol	20 min.	10 min.
Starch	½ dr.	—
Zinc oxide	½ dr.	—
Lanolin	2 dr.	—
White vaseline	3 oz.	—

If the baby has a severe and extensive eczematous eruption, it is wise to place him on a very smooth sheet (in his own bed) and cover him with another equally smooth sheet, with no other covers used (this of course necessitates the use of lights in the crib to keep the child warm, since the baby wears no clothes at all). Cover the top and sides of the crib to prevent drafts. The arms and legs must be restricted if the baby tries to scratch.

When the case is severe and drawn out, it must be remembered that exercise is essential for the well-being of the child and that he must be taken out of the crib once or twice a day (or even more frequently) for this exercise. Here again, it is most important to prevent the child from scratching and the hands and feet must be watched carefully. While the infant is in the crib, restraints are usually mandatory. At times some form of restraint must be used on the head as well as on the extremities in order to keep the baby from rubbing the cheeks or back of the head.

My preference in handling these babies is to treat them in the home. The families are happier, the child has more attention and chance to exercise, and, since the allergic child is very susceptible to respiratory infections, he can usually be more successfully isolated.

There is one problem that cannot be stressed too frequently for it is of great importance to babies and children with eczema. It is fairly well known that no child with eczema can be vaccinated, but at times we fail to recognize that it is equally important that no child in the same house may be vaccinated unless the child with eczema is removed from the household until the other child's vaccination is entirely healed. Failure to carry out this important preventive measure may result in the prolonged and severe illness or even death of the child with eczema.

Wheezing. Some allergists consider asthma a very important problem in early infancy.

This has not been true in my experience. It certainly does occur at times. The youngest child I have seen with true asthma was 2 days old, but by far the majority of the babies with asthma were 10 months of age or older. However, it is not uncommon to have children brought to us for wheezing that does not prove to be asthma. At one time in the clinic of St. Christopher's Hospital for Children 9 babies who were wheezing very markedly appeared in one day. They ranged in age from 3 to 9 months of age. Three of them had an enlarged thymus, 3 had a congenital anomaly of the larynx, and 3 had asthma. My routine with these children is to do a complete physical and then send them for a roentgenogram of the chest before any allergy studies are instituted.

At this point a controversial item should be mentioned. Is there such a thing as an enlarged thymus? It is my considered opinion that such an entity does exist. Dr. Jacob Vastine has over 1,000 roentgenograms showing misplacement or constriction of the larynx due, I believe, to an enlarged thymus. Treatment with very small doses of radiation once or twice corrects the problem and the asthma disappers promptly.

Wheezing may be produced by other congenital anomalies, such as in the following cases: (1) in the case of collapse of a portion of the lung, due to an enlarged mediastinal gland or tumor; (2) in association with pulmonary infection; and (3) in cases of foreign bodies in the respiratory tract. Again, roentgenography of the chest is mandatory in making the proper diagnosis and in most cases usually clarifies the problem without trouble. Congenital anomalies of the larynx can be readily diagnosed by laryngoscopic examination. Children with such conditions require special care and as a rule should be hospitalized as soon as any respiratory infection appears.

Asthma. As with all allergic problems, asthma presents the physician with many difficulties. The 1 year old baby, however, does not develop the serious psychological problem that plays such an important part in the older child. The infant often appears to be quite content to lie flat in bed regardless of the difficulty in breathing. Treatment of acute attacks of asthma in a baby is relatively simple. One very important and simple method of therapy should be stressed. These babies almost always show abdominal distention, and a warm enema or colonic irrigation with isotonic sodium chloride solution will at times produce dramatic relief of the dyspnea. Very severe cases warrant the use of the oxygen tent.

My own handling of infants with asthma differs from that of most pediatric allergists. Discussing my routine with other allergists seems to bring out one consistent statement, that is, that "we have no way to follow your method." For the author this procedure is a very simple one and gives extremely satisfactory results. I am referring to the use of a vaccine prepared from secretions aspirated through the bronchoscope. In the hands of a competent bronchoscopist it is a very simple operation, only requiring from 30 seconds to one and one half minutes and no anesthesia. From this aspirated secretion an autogenous vaccine is prepared. The author has previously reported[6] the good results from this method of treatment. However, it must be reiterated that the vaccine therapy is to be continued every week to 10 days for at least one year after the patient is symptom-free.

The dosage of vaccine is small. In the last 10 years the author has used only concentrations of from 1:10,000 up to 1:10 million organisms per cubic centimeter. The dosage never exceeds 0.1 cc. I use 27 gauge half-inch needles to administer the vaccine, and the children do not object to "shots" given in this manner. After one year of freedom from asthma, I then increase the interval for injection to every two to three weeks for a year and finally give only a few doses in the fall of the year—for one to two years.

The method, as mentioned before, has given excellent results. However, I have seen frequent failures following the cessation of vaccine after six or seven months. No children have required the vaccine at more frequent intervals than once a week.

Children as a rule respond rapidly to medication, but only on very rare occasions have I had to resort to the use of drugs in infants. I seldom give epinephrine by hypodermic sprays or inhalation to children of any age. If epinephrine must be given, I limit the dose to 1 min., repeating the same amount in 20 minutes if necessary. Antihistimines are used in very small doses upon occasion. I have never had to use cortisone or similar medicaments for an infant.

Some very interesting articles have appeared relatively recently on the use of gam-

ma globulin in the treatment of intrinsic asthma. The results are variable but certainly warrant further study. In 1952 Bruton[7] described the clinical entity that he called "agammaglobulinemia." He administered gamma globulin (0.6 cc. per Kg.) to 22 children. The results showed improvement in 15 children and no improvement in 7. Favour[8], in studying 11 children, had less favorable results. Crepea and Friedlaender[9] reported their study of 84 patients treated with gamma globulin and stated that about half of them showed some benefit. Abernathy and coworkers[10] had similar results from treatment of 22 asthmatic children. Fifteen showed improvement and 7 were unimproved. Only 3 of the children treated with gamma globulin in the groups mentioned were under the age of 1 year.

It will be most interesting to learn whether a higher gamma globulin level was determined after treatment.

Hay Fever. Hay fever in infancy should be treated in a manner similar to that used for adults but with greatly reduced dosage. This is most important, and treatment should be initiated as soon as the diagnosis is confirmed. At times there is considerable difficulty in finding a physician who is willing to work along with us on babies with hay fever. It is just as essential or perhaps even more essential that such children be treated adequately and as soon as the hay fever is diagnosed, just as the older child is treated, since early hyposensitization may result in the child's losing his sensitivity to pollen in a year or two and having no recurrence in later childhood.

SUMMARY

Prevention maintains an important role in the potentially allergic child.

The feeding of the newborn baby (potentially allergic) is most important.

3. Infants may and should be treated adequately as soon as any allergic manifestations appear.

4. There is some reason to hope that prompt treatment of all allergic manifestations may help in preventing a recurrence of symptoms in later life.

5. Eczema is the most common of all manifestations in infancy and is the most difficult to treat. Treatment should be initiated promptly.

6. The etiology of asthma in infancy and childhood is considered generally of infectious origin and responds to vaccine.

7. Emotional factors except for the mother's reaction play very little part in infants.

8. Hay fever should be diagnosed and treated in infancy as in adult life.

9. The vaccine to be used in asthma should be prepared from the secretion aspirated through the bronchoscope and the dosage should be regulated according to the child's age and tolerance of the vaccine.

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The Challenge of Medicine for Women Today*

M. Louise C. Gloeckner, M.D.

HISTORY TELLS US that from the beginning of time woman has been the comforter, the healer, and the midwife of the people. Kate Campbell Hurd-Mead in her "Medical Women of America" (Froben Press, Inc., Fort Pierce Beach, Fla., 1933) describes the evidence for this statement wherever history has been recorded. And, says she, "Even in the twentieth century, among remote peoples as in past ages, women are the ones who tend women in labor, gather herbs and mix remedies for easing pain, suck a sore spot until it bleeds, and shout the incantations for exorcising its demon. Medicine Men seem necessary only when a louder voice is needed to scatter demons or when greater strength than that of medicine women is indispensable for treating a patient." Throughout antiquity women are pictured as healers and teachers. An ancient Egyptian inscription reads, "I have come from the school of medicine at Heliopolis and have studied at the Woman's School at Saïs where the divine mothers have taught me how to cure disease."

Either the demand for prestige on the part of the man or the feminine quality of "self-effacement and timidity" (Dr. Mead's words), or a combination of both, led to the loss of leadership in medicine and to the loss of opportunity for training as "medical science" was added to the ancient "art of medicine."

Now we are living in a new era of opportunity for women, offered to us by the pioneers of a century ago who dared to found, to staff, and to attend the Woman's Medical College, and to pass on to us the call to service unlimited in the medical world. My generation knows well, and yours will learn in time, how strong is the influence of this heritage and how far-flung the record of her daughters' service.

Our challenge is no longer that of the pioneer cutting her way through unfriendly country but rather the equally demanding one of holding the territory gained and enriching its fruitfulness for our neighbors and for ourselves. We know there is a very real place for women in medicine. Before you graduate you will have seen the best in medical work being done by your faculty, many of whom are women, and you will know that our sex alone is no barrier to the practice of medicine, surgery, obstetrics, pediatrics, or any of the specialties. You will have observed that in some fields your very femininity will be an advantage.

You will, as you observe the work of able teachers endowed with special skills, feel yourself drawn to concentration on one or the other of these. It is right that you should respond thus to the intellectual and practical fare prepared for you. Give yourselves wholeheartedly to each section while you are working on it and take from it all the course offers. I am glad your curriculum does not require you to select a special field on which to concentrate in your undergraduate days. For the decision of whether or not to specialize, and if so in what area, should be made only after a period of practical work and in an atmosphere less charged with the stimulation of competing interests than the medical college campus. What normal young person could

* Presented at the 1959-1960 opening session of the Woman's Medical College of Pennsylvania, Philadelphia.

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fail to find some reason for confusion in the choices available on completion of formal medical training today? The world wants specialists in every field and women are already established as leaders in every specialty.

My particular concern for you as medical women today and tomorrow is that you look carefully into the sphere of general practice as a special calling. The general practice of medicine is not a field into which one should drift for want of direction or drive. This field is wide open for men and women alike, and I believe there is none more demanding of dedication, understanding, enlightenment, and continued application to study than is this one. Nor is there a more rewarding medical life than that of the family physician. To live with one's neighbors through good times and bad and to share with them their sorrows, disappointments, and joys; to feel the sense of teamwork with one's colleagues in meeting the health needs of the community; to have been in some way an agent in protecting one's patients from unnecessary illness; to observe the development of medical progress through the years as one uses its new tools—this way of life, for those who thoughtfully choose this path, is seldom matched.

Where but in general practice could a physician experience the thrill of observing for herself the broad sweep of advance against the forces of disease? Those of us who have practiced thus for a generation know the difference penicillin has made in the management of lobar pneumonia. Thirty years ago we watched anxiously for a week over delirious, toxic, febrile patients whose temperatures persisted at 105-106 F until the "crisis," which physician and family alike dreaded, knowing too well the danger of circulatory failure at this point. For some cases antipneumococcus serum was available, but it was costly and not without hazard to administer; for most patients support was all we had to offer. Compare this picture with today's cases of pneumonia.

Thirty years ago streptococcic throat infections were frequently complicated by otitis media with its sequelae of mastoiditis, and sometimes lateral sinus thrombosis, brain abscess, and death. Scarlet fever, feared above all childhood diseases once diphtheria had been controlled, imposed upon young families in addition to the threat of its crippling complications the economic burden of six weeks of absolute quarantine. With penicillin, the quarantine period has been reduced to seven days and the recovery of patients as well as protection of contacts practically assured.

General practice a generation ago included weekly irrigation of patients with chronic urinary infections, an expensive and poor substitute for the definitive treatment now available. The removal of obstruction and use of urinary antiseptics have relieved patient and physician alike of these time-consuming and uncomfortable treatments.

A very short time ago ringworm of the scalp presented a distressing threat to young school children, and widespread epidemics of this miserable infection were common. Treatment included, in desperation, roentgenographic epilation, which in some cases resulted in permanent baldness. Now, with the development of a new oral medicament, this disease too is headed for extinction.

A generation ago we were limited in diagnosis of cancer of the cervix to biopsy reports. Dr. Macfarlane's slogan—"A suspicious mind and a good light"—stood for the best equipment available, and these are still essentials; but, her monumental research with Dr. Sturgis and Dr. Fetterman demonstrating the value of periodic pelvic examinations for healthy women had not yet begun. Now, the Papanicolaou smear, which makes possible the discovery of a cervical lesion in the earliest preinvasive stage, has been placed within reach of the family physician, and we are so much nearer victory over one more enemy.

I have mentioned these evidences of progress, which fall within the general practitioner's scope, hoping that some of you will see that the romance of modern medicine as the general practitioner sees it every day includes the progress made in internal medicine, gynecology, urology, pediatrics, dermatology, and preventive medicine. Any family physician can show you like thrills in the management of tuberculosis, rheumatic fever, psychoses, and many other afflictions.

Has the conquest of disease, incomplete as it is, lessened the need for family physicians? Of course not. Open any edition of your state medical journal and you will find appeals for help from communities, from groups of busy physicians, from retiring practitioners, and from individuals seeking partners in practice. Occasionally a thriving practice is of necessity abandoned, as happened two years ago when one of our alumnae, after vainly searching for a successor, moved to a shore

resort where practice is seasonal and she can be near her aging father.

If, after careful consideration or a period of application in general practice, your skill and interest center on a specialty, you will be the better in any field for the study you have given the matter or the experience you have gained.

You are even now student members of the medical profession and I hope are, or soon will be, members of the Student American Medical Association. As such, you are learning what organized medicine has to offer you, how democratic processes work to define and accomplish its aims, and how important to your patients are the services it renders and the ethical standards under which we labor together. Whatever the work to be done, medicine is only as strong as the members of the profession. Your county medical society will need you, and your regular attendance at its meetings will facilitate exchange of ideas and development of concerns with colleagues who share with you the responsibility for the health of the community. There are never too many workers in any society, and your willingness to keep informed and to perform when opportunity presents itself will open the door to the fellowship of medical men and women which can broaden and brighten your work.

I am convinced that to be useful in a medical society one needs first of all to keep informed and then to finish faithfully any assignment made. One should, I am sure, learn not to take these responsibilities lightly but rather to refuse work for which there is not time. There is a little room for pioneer women in organized medicine. Our county had a woman president, Alice Bennett, in 1890, and Dr. Macfarlane has reported that Sarah Hackett Stevenson served as a delegate to the AMA from Illinois in 1876—but there is plenty of room for workers and there is still room at the top. Neither the AMA nor the United States has yet had a woman president.

Another challenge for you as a physician lies in the responsibility you have to your community. In the interest of public health, medicine needs alert representatives on school boards, visiting nurse associations, service clubs, church societies, and in voluntary health agencies. The cultists are aggressive in seeking opportunities to sell their ideas to the public and do not hesitate to seek such advantages if not invited. Medicine must be available to provide sound guidance for community projects if it would avoid the disastrous effect of well-meaning, uninformed activity by fellow citizens.

You must learn to budget your time for no one physician can or need fill every available niche. But the challenge remains a very real one, and it is imperative that you discover the need for lay education and acquaint yourselves with the many available sources of material, among which are films, prepared talks, and speakers' bureaus maintained by county medical societies and voluntary health agencies.

There is at present a crying need for interest in civil defense. Even if there were no danger of hostile attack the dependence of our modern society upon public utilities and the vulnerability of those utilities to natural disaster should alert every physician to the need for serious thought on this situation. We have in recent years, from the effects of hurricanes, blizzards, fires, floods, tornadoes, and earthquakes, experienced in various parts of our nation the need to carry on medical care without heat, light, or electric current for appliances. This very common problem is intensified by the dangers of nuclear warfare, with its destruction of available material and interruption of transportation of supplies or personnel. View the whole with an eye to preventing spread of disease as well as to treating casualties and you will see how great is the challenge today.

If we as physicians could begin by persuading the individuals we see to stockpile in their blood streams immunity to tetanus, diphtheria, smallpox, typhoid fever, and poliomyelitis, and to keep these defenses boosted, what a beginning we should have made!

If we ourselves could be prepared and trained to practice medicine under austere, even primitive conditions, how much more service we could offer in time of disaster! I am glad to learn that you undergraduates will soon be included in the MEND program. I hope you will learn that, valuable as roentgenograms, cardiograms, electroencephalograms, and clinical laboratories are, the eye, the ear, and the hand cannot be ignored as diagnostic tools. I hope you will learn how to sterilize instruments without autoclaves, how to anesthetize a patient without the elaborate equipment in daily use in a modern hospital, and how important are such basic principles as

freeing airways, controlling hemorrhage, immobilizing fractures, and cleansing and débriding burns and contaminated wounds.

This phase of modern medicine constitutes a challenge for every physician today.

And now I cannot close without reminding you that for any of your efforts in medicine to be effective your own way of living must ring true. You represent a valuable investment. Nature has endowed you with above-average ability or you would not be here tonight. Your own hard work, the support your family has given you, and the investment of society in medical education add up to enormous amounts.

Treat this treasure that is you with great respect. If periodic health examinations are good for your patients, they are good for you. If stockpiling of immunity is good for your patients, it is good for you. If your patients' nutrition is important enough for your effort in their behalf, how about your own nutritional status? If time for play as well as for work is good for your patients, it is your right too. If an awareness of spiritual values is necessary for a full life for your patients, it is even more necessary for their physician.

Unless you believe enough in the medical truths you will be teaching daily to patients to use them yourself, you cannot hope to convince others to live by them.

None of us can hope nor would we wish wholly to escape the ravages of time and disease to which mankind is subject, but if we have believed our own teaching we can and will accept whatever help is indicated. The ability to meet life's good days and bad ones with courage and faith will grow with you. You may be surprised to find out how much you can learn about living from your patients while to them you seem a pillar of strength, secure in your own resources.

Through my student days the beautiful frieze, The Woman Physician, occupied the front hall wall outside the dean's office, which we passed as we entered college from North College Avenue. It brought us daily its inspiring message, and the challenge it gave us then still holds for us all:

> Daughter of Science, pioneer,
> Thy tenderness hath banished fear.
> Woman and leader in thee blend,
> Physician, Surgeon, Student, Friend.

"True Allergy"

The Allergy Committee of the Philadelphia Pediatric Society is concerned about the failure in diagnosis and adequate treatment of the allergic child. They have asked the Medical Division of the Board of Public Education to obtain additional history from the parents. For this purpose they have prepared a brief questionnaire to be used by the school physician when he interviews the parent who comes to school when the child is scheduled for a complete physical examination. Dr. Jean Crump and Dr. Arthur Lipschutz, members of the Allergy Committee, are conducting a pilot study in School District Six to try to discover cases of true allergy. They feel that these children are frequently treated for acute symptoms, which often clouds accurate diagnosis; hence treatment for allergy is delayed or even omitted. Of the few parents interviewed so far in the pilot study, Dr. Lipschutz reported that the incidence of true allergy runs about 5 per cent and of potential allergy about 15 per cent. This program will be under careful observation and if it proves as valuable as expected it will be expanded to other school districts next fall. (From Weaver, R. H.: What's new in school health, Philadelphia Med. *55*:645-651 *(passim)*, May 22, 1959.)

CASE REPORT

Fatal Lead Poisoning

Jean Gowing, M.D., and Rose R. O'Connell, M.D.

A PROLONGED CONVULSION in a runabout child is too dramatic an occurrence for even the most casual parent to overlook. In the city areas where lead poisoning is endemic many families still think that every child has to "eat his peck of dirt" and register no concern when he craves painted plaster from the old room walls.[1] They are thankful that the little one is quiet and think nothing of the layer of house paint on the stick the baby sucks like a pacifier. When such a child becomes suddenly unconscious, the mother remembers only his recent infections and injuries. A hospital resident feels little confidence in a history of pica which is given vaguely in answer to direct questioning of such a parent.

The present case is reported to re-emphasize the fact that advanced lead poisoning can be almost asymptomatic.

REPORT OF A CASE

A 17 month old tiny Negro girl was brought to the Emergency Clinic of the Woman's Medical College on Aug. 2, 1958, a Saturday evening. She was still twitching from a sudden nonfebrile convulsion that began at home half an hour before.

Her mother stated that the patient had been well until two days before, when she developed "a cold without fever." The next day she had four or five loose stools but did not vomit. Her only previous seizure had come on with high temperature a month before and had lasted only a short time.

The intern never elicited a less informative history: delivery was at home; months of gestation were not known; and neonatal course was uneventful. Sitting, standing, walking, talking, and teething developed on time. Systemic review was negative. There were no allergies and no contagious diseases. The patient had received three injections of diphtheria-pertussis-tetanus vaccine and a booster, two of poliomyelitis vaccine, and a smallpox vaccination that still looked a little red.

On admission physical examination showed the patient to be fairly well developed; however, she weighed only 18.5 lb. Temperature was 98.6 F; pulse 120 per minute; respirations 30 per minute; and blood pressure 100/50 mm. Hg. The patient was still unconscious and twitching an hour after oxygen inhalation and administration of phenobarbital by injection. She responded neither to light nor noise. Her skull showed no trauma; fontanelles and sutures were closed. Fundi were normal. She had occasional lateral nystagmus. Cervical nodes were palpable. The heart showed a regular sinus rhythm, no enlargement, and no murmurs. The abdomen was soft and the only masses were fecal. Palms and soles looked quite pale. Deep tendon reflexes were present and equal but Kernig's sign was positive. Plantar responses were normal.

The blood count on admission was as follows: hemoglobin, 9.0 Gm.; hematocrit, 30 per cent; and leukocytes, 15,750 per cubic millimeter, with 22 per cent neutrophils, 77 per cent lymphocytes, 1 per cent eosinophils, and 9 nucleated erythrocytes per 100 leukocytes. The blood sugar level on admission was 260 mg. Routine urinalysis showed 3+ sugar and 10 mg. albumin but was otherwise negative.

Tentative diagnoses at this time were: epilepsy, diabetes, encephalitis (probably viral), or poisoning.

Urinalyses continued to show sugar without acetone. On Aug. 4 coproporphyrins were found[2]; there were no uroporphyrins.

Carbon dioxide combining power on Aug. 3 was 21 mEq.; on Aug. 4 it was 16.2 mEq. Blood acetone in a 1:10 dilution was within normal limits. The cal-

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cium level on admission was 4.9 mg.; on Aug. 4 it was 4.8 mg.

Blood cultures showed no growth, but cultures of the nasopharynx revealed *Neisseria sicca* and *N. catarrhalis*.

Results of cerebrospinal fluid examinations are shown in the following tabulation:

Tests	8/2	8/3	8/4
Cells—WBC	16 cu. mm.	11	3
Protein	74 mg./100 cc.	65	98
Chlorides	720 mg./100 cc.	692	694
Sugar	105 mg./100 cc.	40	97
Pressure	"normal"—170 mm. water		

Roentgenography of the skull showed normal results. Roentgenography of the arms and legs showed increased density of the distal metaphysial areas of all the long bones.

Results of viral studies were returned several weeks later: there was no serologic evidence of lymphocytic choriomeningitis, mumps, or poliomyelitis 1, 2, and 3; there was no evidence of virus in the spinal fluid inoculation of monkey kidney cells.

Consultations. The neurologist and neurosurgeon agreed that the child was in status epilepticus, probably due to lead encephalopathy, and not in condition for surgery. Ophthalmologic examination revealed normal eye grounds. At times the patient had a dilated right pupil and lateral nystagmus.

Treatment. Treatment was symptomatic until the reports came back on Aug. 4. Twenty units of insulin was given on admission when the blood sugar level was discovered to be 260 mg. Intravenous fluids including one-sixth molar solution of sodium lactate to cover the acidosis were administered, avoiding excessive amounts. Vitamin B complex and ascorbic acid were added. Passage of a stomach tube caused too much choking to be used for nourishment.

When the temperature rose to 103.8 F on the second day, use of procaine penicillin in doses of 300,000 units twice daily was begun and 100 mg. tetracycline (Achromycin) was given every eight hours intramuscularly. The pulse remained stable at 160 per minute and respirations at 30 per minute.

Sedation with repeated doses of phenobarbital sodium, 30 mg. by injection, and 300 mg. chloral hydrate rectally had no lasting effect on the convulsive state.

After neurological consultation injections of 25 mg. of diphenylhydantoin (Dilantin) sodium were given every hour as needed for twitching, up to a total of 150 mg. in 12 hours. The higher dose was only slightly more effective.

On the afternoon of Aug. 4 the first dose of EDTA (Calcium Disodium Versenate)—1.5 cc.—was given intravenously and the patient had a more restful night.

Death occurred on the morning of Aug. 5 before the second dose of EDTA was given.

Autopsy Findings. The gross findings were not remarkable. The brain weighed 940 Gm. but did not show the expected amount of edema. It was sent to the medical examiner's office, which subsequently reported a "lead level of 0.92 mg. per 100 cc."

Some days after death the report on the level of lead in the blood was also returned: "184 μg. which, corrected to a hemoglobin level of 15 Gm., would give 478 μg."

COMMENT

A case is presented in which the content of lead in the blood reached 60 times the normal level and the content in the brain 10 times the normal level without causing severe cerebral edema but causing an irreversible seizure state. The terminal illness lasted only two and a half days.

The only real methods of treating such catastrophes are preventive education to alert parents to the dangers of paint ingestion and epidemiologic studies by health authorities to locate possible sources of lead.[3]

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3. Byers, R. K.: Lead poisoning: review of the literature and report on 45 cases, Pediatrics *23*:585-603, March, 1959.

Medical Briefs

INDEFINITE STORAGE OF WHOLE BLOOD

Recent advances in whole blood storage are paving the way for an eventual revamping of present concepts of blood bank administration. The Linde Company, Division of Union Carbide Corporation, has received the support of the Office of Naval Research to carry on its research in this field. They have achieved notable success utilizing liquid nitrogen as a refrigerant. With their system, 1 pt. of whole blood can be frozen to a temperature of −320 F in fewer than 45 seconds; and, with approximately equal rapidity, blood thus frozen can be thawed and brought to body temperature just before transfusion.

The maintenance of frozen cells at −320 F presents an interesting phenomenon. At this low temperature there is not enough energy to support chemical or physical change, and crystal structures, such as ice, cannot form or grow. But this is not so at temperatures of zero or −50 or even −100 degrees. Ice frozen in a lake or in a refrigerator has crystals that are continuously growing in size. To preserve live blood cells a freezing procedure must halt the growth of crystals before they get so large as to inflict mechanical damage on the cell. Speed in freezing is also important because, as the water in cells congeals, the normal salt solutions become more concentrated, destroying the cell.

Another advantage of this new method for indefinite storage will be the ability to collect and preserve rare blood types in quantity, and thus every blood type could be stored in sufficient volume to supply almost every imaginable type of emergency. This technique of low-temperature freezings has also proved valuable in preserving bone marrow and bacterial cultures.

Blood banks now normally keep whole blood for a maximum of 21 days, and the aging of the cells is progressive during this period. Using this new method, however, blood has been kept for two years, and tests on the thawed blood have demonstrated that between 85 and 95 per cent of the cells can be recovered with intact complements of hemoglobin.

The Linde scientists are working with physicians at the University of Buffalo Medical School and exchanging data with independent researchers in this country and abroad. All have set out to develop a reliable process that will meet these criteria: a rapid freezing-thawing system with minimum handling of red blood cells that would permit the economical stockpiling of blood in volume, including rare types, without aging for extended periods of time, and with a good recovery of cells at the time of transfusion.

DISSOLUTION OF CLOTS IN THE CORONARY ARTERIES

The findings of laboratory and clinical studies, reported to the American Heart Association's annual scientific meeting in Philadelphia, show that the enzyme fibrinolysin dissolves myocardial infarcts and venous thrombi. Through techniques used in cinefluorography (fluoroscopic visualization of the coronary arteries), the fibrinolysin is injected directly into the coronary arteries. Data obtained through the use of cinefluorography, as reported by Dr. F. Mason Sones Jr. of Cleveland Clinic, surpasses the information that can be gained through reading electrocardiograms.

Dr. Sones has catheterized the coronary sinuses of 200 patients without serious side effects, and has the added advantage of being able to see what happens when fibrinolysin acts on an infarct.

In vivo tests on animals have shown that fibrinolysin has lessened the damage caused by myocardial infarcts. In clinical tests run on 62 patients with thrombophlebitis, 32 received fibrinolysin in conjunction with anticoagulants while the control group received the standard treatment of anticoagulant therapy only. In the experimental group the average hospital stay was reduced by almost five days and all but 2 patients recovered completely—the 2 requiring more intensive treatment for "residual problems." Members of the control group who received only standard therapy experienced complications, including pulmonary emboli in 4 patients, with resultant death in 1 of these.

President's Message

"Why is there a separate organization of medical women? Aren't you all members of the AMA? I am sure that there is not a single one of us who has not been asked such questions. Briefly I usually tell the interrogator that women in medicine are staunch supporters of the AMA but that, like various specialty groups, they have special problems and interests that require a separate organization.

We were delighted to read at our recent Midyear Meeting in Hot Springs, Ark., the very cordial greeting of Dr. Louis M. Orr, President of the AMA, and were extremely pleased to have as our guest Dr. Rufus Robins of Camden, Ark., a member of the Board of Trustees of the AMA. Dr. Robins was kind enough to stop at Hot Springs en route to the Board of Trustees meeting in Chicago to bring us in person the good wishes of the AMA and to discuss with us some phases of our work. Dr. F. L. J. Blasingame also wrote us, regretting that he could not share with us the delightful hospitality of Hot Springs, his birthplace.

We reaffirmed our desire to offer all co-operation as individual AMA members on the local level in supporting the AMA in its efforts to procure the best possible medical care for the people of our country. We assured Dr. Robins that in the AMA scientific programs, in their legislative platforms, and in similar matters important to all medical people the AMWA gladly puts its shoulder to the AMA wheel. Dr. Robins spoke of Dr. May Owen, honored as Medical Woman of the Year in 1955 by the Dallas Texas Branch, who is a member of the Board of Trustees of the AMA.

Although we are very proud of our membership in AMA, we maintain that there is a place also for an organization of medical women. As pediatricians, obstetricians, dermatologists, or specialists in any field, we find value in the society of our medical specialty because the problems dealt with are specifically of group interest. As medical women we have to make some adjustments to medical practice that are uniquely our own. We cannot "bother" AMA with these.

Some years ago one of my clinical professors remarked that women in medicine had a more difficult adjustment than their male colleagues. A woman resident replied, "Yes, that's because a woman physician has no wife."

The adjustments that are needed to carry on a practice and also run a home, to bear and rear a family of children, and to act as counselor to other women of the community are problems that medical women mutually share.

Out of this the AMWA was born. Out of this a service program has grown that extends from the premedical student of our home town to our medical women colleagues of distant lands. Our Medical Education Committee has written for the incipient woman physician "So, you want to be a Doctor?". In many medical schools we now have junior branches that are encouraged to meet with the practicing women, as well as with women interns and residents, to exchange information on their problems and future interests. The AMWA is proud of the records of their women medical students and says so by a citation to every women graduating in the first 10 per cent of her class scholastically, and by a cash award if she leads her class. A preceptorship program is being offered that may permit a student to see at first hand the practical aspects of carrying on a home and a practice. A roster of part-time medical jobs is being encouraged for the young mother-physician. THE JOURNAL OF THE AMWA provides a medium for wide dissemination of studies, panels, and lectures on the year's themes for meetings. These have included "The Emotional Health of the Family," "The Physician in the Role of Adviser," and the "Development of the Physician As an Adviser." Our JOURNAL also provides branch guest numbers, news of medical women, opportunities for women, and other departments of value and interest. The affiliation with the Medical Women's International Association has developed around the world an opportunity for foreign service and relief sent quickly to a needy country through their own nationals, trained in medicine and personally known to be willing and able.

These are our reasons for having an AMWA. We believe that AMWA members have an opportunity of being even better members of AMA as they solve their own special problems.

Jessie Laird Brodie M.D.

American Medical Women's Association, Inc.

TENTATIVE PROGRAM

1960 ANNUAL MEETING

June 9-12, 1960

The Carillon Hotel
68th to 69th Street
Miami Beach, Fla.

Thursday, June 9

Committee Meetings
10:00 a.m.—Executive
1:00 p.m.—Finance
7:00 p.m.—Executive
Others as called by their chairmen
Evening tour of Miami Beach recreational facilities for older people

Friday, June 10

9:00 a.m.—General business session
12:00 noon—All resolutions to Reference Committee A
12:30 p.m.—Luncheon
2:30 p.m.—Tour of clinical facilities and programs
7:00 p.m.—Dinner
8:30 p.m.—Speaker: Leonard Larson, M.D., Chairman, Board of Trustees of AMA

Saturday, June 11

9:00 a.m.—General business session
11:00 a.m.—Reading of resolutions
12:15 p.m.—Lunch
2:00 p.m.—Scientific Assembly
Debate: "Should the Older Person Live with His Children?"—high school debating team
4:00 p.m.—Hearing on resolutions
6:00 p.m.—Hospitality hour
7:00 p.m.—Inaugural banquet
Inaugural Address: "A Modern Day Challenge—Disability"—Claire F. Ryder, M.D.
Presentation: Elizabeth Blackwell medal

Sunday, June 12

9:00 a.m.—General business session
12:15 p.m.—Luncheon
2:00 p.m.—Scientific Assembly
Preview 1960-1961 program
Panel: "Prevention and Control of Disability"—Nila K. Covalt, M.D., moderator
5:00 p.m.—Tea at Dr. Soisson's Retirement Hotel
6:00 p.m.—Boat trip (about 3 hours) with box lunch for all women physicians attending AMWA and AMA meetings—compliments of Florida members

For room reservations, see page 305.

Candidates for Offices of AMWA

The following physicians have been nominated for the term 1960-1961

PRESIDENT-ELECT
(Two Candidates)

Dr. Edith Petrie Brown, Bedford, Ohio, is a member of Branch Fifteen and a life member of AMWA. She holds a B.S. degree from Westminster College and an M.D. degree from George Washington University School of Medicine, where she graduated in first place in a class of 60. She interned at Grace Hospital, Detroit, and has had postgraduate training in pediatrics, Children's Hospital, Washington, D.C.; in psychiatry, Rochester State Hospital, Rochester, Minn.; and in anesthesiology, Bedford Hospital, Bedford, Ohio. She served as resident at the Sunny Acres Tuberculosis Sanitarium, Cleveland. She entered general practice in 1937 and since 1947 has devoted full time to her practice in Bedford.

Dr. Brown has served Woman's Hospital of Cleveland as vice-chief of staff and, at present, is on the Board and a member of the staff. She is on the Active Staff, Suburban Community Hospital, and the Courtesy Staff, Booth Memorial Hospital; is a member of the Board of Trustees, Bedford Community Hospital Corporation; and is in the seventh year as chief of staff at Bedford Municipal Hospital.

She is a member of AMA, Ohio State Medical Association, American Academy of General Practice, the Cleveland Academy of General Practice, and the Cleveland Academy of Medicine, and is a fellow of the American Academy of Psychosomatic Medicine.

Dr. Brown has served AMWA on the Finance Committee and Constitution and By-Laws Committee, as second vice-president and chairman of the Membership and Organization Committee, as chairman of the Nominating Committee, and in various other capacities.

In private life, Dr. Brown is the wife of William Brown, attorney, mother of a son and a daughter, and grandmother of one.

Rose V. Menendian, M.D., was born in Turkey of Armenian parents. At the early age of 9 years, she attended the American School for Girls in Sivas, Turkey, traveling four days on horseback to reach her destination, where she received her early education.

Having survived the Armenian exodus during World War I, she came to the United States in 1920 and settled in Chicago.

She was granted a B.S. degree by the Chicago Collegiate Institute and graduated from the Chicago Medical School in 1926. She interned at the Frances E. Willard Hospital in Chicago and later took a residency in obstetrics at the Jackson Park Hospital in the same city. Four years of work were spent with Dr. Otis M. Walter, general surgeon, and for many years Dr. Menendian was associated with Dr. Bertha van Hoosen.

Dr. Menendian did one year of postgraduate work in physiology under Dr. A. C. Ivey at Northwestern University. She did dissecting work for the Anatomical Museum under Dr. Otto Kampmeier at the University of Illinois and also worked independently in this area. She is a fellow of the International College of Surgeons and is on the surgical staff of the Mary Thompson Hospital in Chicago.

Dr. Menendian is a member of the Illinois Medical Society, Chicago Medical Society, and AMA, and is a life member of the AMWA. As chairman of the AMWA Library Committee she was most capable, successfully obtaining funds to reach the goal of $50,000. She is state director for Illinois, is chairman of Reference Committee A, and has served Branch Two, Chicago, in many capacities: as chairman of the Medical Service Committee (AWH), 1946-1949, and 1950-1951; as second vice-president and membership chairman, 1955-1956; and as president, 1957-1958. She served as first vice-president of AMWA for 1959-1960.

FIRST VICE-PRESIDENT

Dr. Rosa Lee Nemir, Professor of Pediatrics at New York University College of Medicine, recently has been appointed chief of the Children's Chest Service at Bellevue Hospital.

A Texan by birth and early education, she received her B.A. degree (Phi Beta Kappa) from the University of Texas in 1926 and her M.D. degree from Johns Hopkins University School of Medicine in 1930. Internship in pediatrics was served at University Hospital, San Francisco, and residency at Children's Medical Service, Bellevue Hospital.

For over 25 years Dr. Nemir has been on the pediatric staff of NYU-Bellevue Medical Center, teaching undergraduate students. For 10 years she has been teaching physicians graduate and postgraduate courses as well. From 1934 to 1941 she also taught nurses in the Bellevue School of Nursing.

Dr. Nemir's special interest has been in diseases of the chest. She was a Commonwealth Research Fellow in pneumonia from 1931 to 1936 and was an investigator in tuberculosis in the Children's Medical Service at Berlin Hospital for many years.

Dr. Nemir has been associated with the Judson Health Center in New York, where she started a clinic for adolescent girls in 1939. She is now medical director of the Center, which serves 1,400 families in the area.

She is a diplomate of the American Board of Pediatrics and a member of the American Academy of Pediatrics, the American Pediatric Society, the Society for Pediatric Research, the AMA, Branch Fourteen of the AMWA, the New York Academy of Medicine, American Trudeau Society, and New York Academy of Sciences. Her "extracurricular interests" include activities with many groups in the community: she has served on the Board of Directors of the Brooklyn Kindergarten Society, Willoughby House Settlement, Association of Brooklyn Settlement Houses, and the P.T.A. of Brooklyn Friends School, where she served as program chairman for some years. Dr. Nemir is the first woman to serve on the Board of Directors of the YMCA, Intercollegiate Branch, New York City. Various activities in Branch Fourteen have included service as program chairman, vice-president, and president. In 1959 she served as chairman of the Historical Committee for the golden anniversary of the Branch. In the AMWA she was chairman of the Publicity and Public Relations Committee for several years and during the 1959-1960 term served as second vice-president.

Dr. Nemir in private life is Mrs. Elias J. Audi and the mother of three children, a daughter and two sons.

SECOND VICE-PRESIDENT

Dr. Bernice C. Sachs of Seattle is actively engaged in the practice of psychosomatic medicine (Group Health Clinic). She is also contributing her time and effort to community activity in the fields of health and welfare.

As a high school student in Passaic, N.J., Dr. Sachs was active in forensics, sports, journalism, the Red Cross, and the mathematics team; she held the honor of being commencement speaker, and 20 years later, at the annual high school reunion, was presented with a gold key as the class' "most outstanding citizen." In 1939 she received a B.A. degree "with distinction" from the University of Michigan in Ann Arbor, where she had continued to participate in numerous activities and where she had received the Pan-Hellenic scholarship and an annual book award "in proud recognition of four years of distinguished scholarship." She remained at the University to pursue her medical studies and, in 1942, was awarded an M.D. degree, again "with distinction."

During the next seven years, Dr. Sachs was occupied with internship and postgraduate training at Michael Reese Hospital and Institute for Psychosomatic and Psychiatric Research and Training, Chicago. Since 1949 her home has been Seattle.

Her present membership in professional societies includes the American Psychosomatic Society, AMA, AMWA (state director for Washington, 1959-1960 recording secretary, and president of Branch Thirty-Seven, Seattle, for 1959-1960), Washington State Medical Society, King County Medical Society, and Washington Academy of Clinical Hypnosis.

Her scholastic ability is indicated by her membership in the following honorary scholastic societies: Alpha Lambda Delta (freshman), Iota Sigma Pi (chemical), National Forensic League, Phi Beta Kappa, Phi Kappa Phi, and Alpha Omega Alpha.

As a member of the Seattle community and as a wife and mother, Dr. Sachs participates in activities of various local groups. She was mental health chairman of the Montlake School P.T.A. and chairman of the Children's Program Committee of the Seattle Jewish Community Center; she is on the Board of Directors of the Western Region of the National Jewish Welfare Board and of the Health and Welfare Council of the Community Chest. For the past five years she has been invited to "Matrix Table," an annual award of recognition to outstanding women in Seattle. Dr. Sachs adds: "My interests are sailing, water skiing, fishing, tennis, golf, music, dancing, and living in 'God's Country' with my husband (Dr. Allan E. Sachs, surgeon), son, and daughter (15 and 12 years old respectively)."

RECORDING SECRETARY

Dr. Mary K. Helz was born on April 13, 1904, at Dayton, Ohio. When she was 12 years old her family moved to a farm where she had all types of educational experience ranging from the one room red brick schoolhouse to the consolidated school. She graduated from High School in three years and went directly to Ohio Wesleyan University, receiving a B.A. degree four years later (1926). After 12 months of medical school at Ohio State University her financial situation forced a temporary withdrawal. She took a job in the Ohio Board of Health Laboratories where she stayed for a year and a half. She was then offered an opportunity to return to graduate school at Ohio State and work full time in the Department of Pathology. During the next six years Dr. Helz earned a Master's Degree in Pathology (1932), was elected to Sigma Xi, and married while teaching and doing research in the department. After her daughter was born, she spent her full time as a housewife for nine years. During World War II she applied for admission to the University of Pittsburgh School of Medicine and was accepted on two condi-

tions. The first stipulation was that she work in the Children's Hospital laboratory full time for at least a year and the second was that she repeat no course for which she had already received credit. After working the first year full time, Dr. Helz stayed on the second year part time while finishing her second year in medicine. After graduation in 1944 she interned at Mercy Hospital, Pittsburgh, and followed this with a residency in internal medicine at the same place. The next eight years were spent in private practice in Pittsburgh. She continued to teach clinical medicine at the University of Pittsburgh, attaining the rank of assistant professor. Dr. Helz was the first woman elected to the staff of Mercy Hospital.

At this point it seemed wise to Dr. Helz to lighten her work and shorten the hours. She gave up her practice and went to the Student Health Service of Pennsylvania State University, which has proved very satisfying to her. "The work is satisfying, the students stimulating, and the hours not too confining. I enjoy my grandchildren, service clubs, medical societies, and hobbies. The mountains of Centre County are a wonderful place to fish, hike, and take pictures."

CORRESPONDING SECRETARY

Dr. Eva F. Dodge, a New Englander by birth, Associate Professor of Obstetrics and Gynecology, University of Arkansas School of Medicine, received most of her education, except for high school, outside New England. She received her A.B. degree from the Ohio Weslevan University, Delaware. After teaching high school science, she went to medical school in Baltimore, graduating from the University of Maryland in 1925. She was the first woman to receive a rotating internship and residency in obstetrics at the University Hospital, Baltimore.

In 1928 she was appointed acting professor of obstetrics at the Woman's Christian Medical College, Shanghai, China, which position she occupied for a year. Because of illness she was forced to return to the United States. In 1930-1931 she did postgraduate work at the University of Vienna, Austria.

Dr. Dodge was the first woman physician to practice medicine in Winston-Salem, N.C. During the time there, 1932-1937, she organized prenatal clinics in several of the surrounding counties. In 1937 she was asked to be obstetric consultant for the Alabama State Health Department, to help organize prenatal county clinics for the midwife cases. During the time she was in Alabama, she was "loaned" to the Childrens' Bureau as obstetric consultant to the Maternal Child Health Bureau in the Puerto Rico Health Department. During World War II she was associate medical director of the Planned Parenthood Federation of America, working with industry on better maternity policies and with state health departments. In 1945 Dr. Dodge joined the medical faculty of the University of Arkansas School of Medicine, Little Rock, as associate professor of obstetrics and gynecology.

Dr. Dodge is a diplomate of the National Board of Medical Examiners and a fellow of

the American College of Surgeons and the American College of Obstetrics and Gynecology. She is a member of specialty organizations, including the American Society for the Study of Sterility.

She has been a member of the AMWA since 1938 and served as first vice-president in 1938-1939 and chairman of several committees; she has been active on numerous other committees for the last 20 years. She also helped to organize Branch Thirty-Four, Arkansas. She is sponsor of the Eva F. Dodge Junior Branch of the University of Arkansas School of Medicine. She has been corresponding secretary for the Pan American Medical Women's Alliance for the past six years.

Dr. Dodge has published numerous scientific articles and has had articles in several lay magazines.

Her "extracurricular" interests include activities with community and welfare groups, having served on many boards and committees. She is well known as a lecturer on medical subjects for nonmedical groups. She was one of a group in Mississippi who organized and directed the first Study Groups for Education for Responsible Parenthood and was coauthor of the manual used in this work. She is a member of Altrusa International and was organizational chairman for the Pulaski County Mental Health Association.

Dr. Dodge adds: "My interests are antiques, travel, handicrafts, gardening, and currently studying high school subjects with my South American foster son."

TREASURER

Dr. Margaret Jane Schneider of Cincinnati was born in Chillicothe, Ohio, and attended Wittenberg College, where she received her A.B. degree in 1926.

Dr. Schneider became interested in medicine while working as a dietitian in the lunchroom at the University of Cincinnati College of Medicine. She received her M.D. degree from the College in 1939. Her internship and residency were both served at Jewish Hospital in Cincinnati.

She has been in general practice continuously from 1941 to the present time. From 1943 through 1946 she was assistant professor of physiology at the University of Cincinnati, and she is now on the active staff at Jewish and St. Francis hospitals.

Dr. Schneider was president of AMWA Branch Eleven, Southwestern Ohio, 1951-1952, has served on the Finance Committee of AMWA since 1955, was first vice-president in 1958-1959, and was assistant treasurer in 1959-1960.

She is a member of the Lutheran Church, and in private life is the wife of Mr. Joseph Austin.

Her endorsers commented that she is "energetic, enthusiastic, clear thinking, a hard worker, and dependable."

ASSISTANT TREASURER

Dr. Josephine E. Renshaw of Washington, D.C., was born in Edgewood, Pa. She received her B.S. degree from the University of Wisconsin in 1932 and her M.S. degree from Wellesley in 1933. From 1933 through 1938 she taught physical education at Pomona College in California and at the University of Illinois. She entered medical school at the University of Maryland, receiving her M.D. degree in 1943. A one year internship was served at the University of Maryland Hospital. Dr. Renshaw then took her residency in obstetrics and gynecology at Johns Hopkins Hospital from 1944 to 1947.

Since 1947 Dr. Renshaw has been engaged in private practice, specializing in obstetrics and gynecology. From 1953 through 1955 she was an attending physician in obstetrics at Garfield Hospital, Washington, D.C., where she also served as a member of the Research Committee and the Outpatient Obstetric Committee. She is currently an attending physician at Washington Hospital Center and has been chairman of their Perinatal Clinic Committee since 1958.

Dr. Renshaw achieved the distinction of being the first woman to be chairman of a standing committee in the Medical Society of the District of Columbia, serving five years on the Public Relations Committee, three of which were spent as chairman. During this period outstanding programs were initiated, such as the J. B. Nichols awards to the lay individual or organization making the greatest contribution to the health of the community; an annual dinner for the nurses, secretaries,

and other personnel employed by physicians; and a series of television programs for the public, presented in conjunction with the health department. She has also been active on various other committees of this society, including the Public Policy Committee, the Grievance Committee, the Advisory Committee for the League of Nursing, and the Committee on Aging. In 1955-1956 she was appointed delegate to the Health Section of United Community Services.

Dr. Renshaw is a diplomate of the American Board of Obstetrics and Gynecology and a member of the AMA, American College of Obstetrics and Gynecology, and AMWA. She has served the AMWA as a member of the Legislative Committee, Reference Committee A, and Constitution and By-Laws Committee; she has been president, corresponding secretary, and program chairman of Branch One, and has served as delegate to Association meetings. In 1955 Branch One honored Dr. Renshaw by selecting her Woman of the Year.

As a former physical educator, Dr. Renshaw maintains an active interest in sports medicine, and was recently interviewed on the subject by *Scope Weekly* (Dec. 2, 1959). She has also been invited to speak before the American College of Sports Medicine.

One of Dr. Renshaw's objectives is to see women in positions fitting their capabilities, an ideal that she not only preaches but practices.

PRESIDENT

CLAIRE F. RYDER, M.D., President-Elect, will assume the office of president at the conclusion of the 1960 Annual Meeting.

Forum Topics Announced

The White House Conference on Children and Youth, which will meet from March 27 to April 2, 1960, will be attended by 7,000 persons. One of the divisions of the Conference is the forum, for which 18 working topics were announced in January.

A forum of more than 500 participants will be devoted to the problems of juvenile delinquency: its causes, diagnosis, and prevention, and the rehabilitation of juvenile offenders. Another forum will devote its energies to the challenge of the increasing mobility of America's population in relation to health, education, and employment, and to the social and cultural life of the young.

The central concern of the Conference is a redefinition of ideals and values for America's children. (For details of the Conference see p. 67, *J. Am. M. Women's A.*, Jan., 1960.)

Of Special Interest

"THE INCOMMUNICABLE ANONYMOUS ORDER"

The above title was given to paralytic asphasics by Dr. Hamilton Cameron, who, in 1943, suffered a coronary thrombosis and a cerebral embolism which resulted in paralysis of the right side and aphasia. During his noncommunicable state he developed the Hand Talking Chart. However, it was not until two and a half years later that he had sufficiently overcome his speech defects to communicate his ideas to an artist. Six years after his stroke he had completely overcome his physical defects and dedicated himself to the plight of the hemiplegic aphasic.

The Hand Talking Chart, providing the patient with simple signs that communicate his basic needs, has proved a boon to both the patient and the family. Dr. Cameron has been supplying the Chart gratis for 12 years and has been enabled to carry out his work solely through contributions. The Chart can be obtained by writing to Hamilton Cameron, M.D., 601 W. 110th St., New York City 25.

LISTER HILL, F. I. C. S.

For the second time in the history of the International College of Surgeons, a layman was made an honorary fellow. The honor was bestowed in 1959 on Sen. Lister Hill of Alabama, sponsor of the International Medical Research Bill and supporter of medicine in its efforts to maintain a high level of medical care. The only other layman to have been made an honorary fellow is Francis Cardinal Spellman of New York.

COLLEGE OF NUTRITION ESTABLISHED

A group of New York and New Jersey specialists in nutrition, metabolic diseases, and gastroenterology have formed the American College of Nutrition, a nonprofit organization subject to the regulations of the AMA. The College will also include gerontologists, endocrinologists, and surgeons. Its purpose is to promote postgraduate research and education in therapeutic nutrition. Fellows of the new college will be entitled to use the initials "F.A.C.N." as part of their signature.

The college will grant fellowship to a physician whose practice is concerned chiefly with problems of metabolism and nutrition, conditions in which electrolyte balance and metabolite supply to the tissues are involved, and others in which nutritional or metabolic factors are important, including postoperative convalescence. The main objective of the College is to stimulate and encourage postgraduate research in nutrition and metabolism. The president of the college is Dr. S. William Kalb of Newark, N.J. The administrative office is ar 19 Oak St., Livingston, N.J.

MANAGEMENT OF EMOTIONAL DISORDERS

The North Shore Hospital of Winnetka, Ill., began its tenth annual lecture series on Oct. 7, 1959. The series, "Office Management of Emotional Disorders," will continue through June, 1960, under the direction of Dr. Samuel Liebman, Medical Director of the Hospital. The lectures will emphasize the need for early detection, care, and treatment of emotional illnesses by the family physician.

The lectures by noted psychiatrists will cover many phases of emotional disorders, including diagnostic signs and symptoms, evaluation and understanding, and drug therapy. There will also be lectures on the office management of neuroses, psychoses, psychosomatic medicine, and the treatment of the alcoholic and the drug addict.

Five reference books on previous series are available: "Stress Situations," "Management of Emotional Problems in Medical Practice," "Understanding Your Patient," "Emotional Problems of Childhood," and "Emotional Forces in the Family." The lectures now under way will be published and royalties will be assigned to the American Psychiatric Association for advancement of education in mental health. Information regarding the series and the books may be obtained from Dr. Liebman, North Shore Hospital, 225 Sheridan Rd., Winnetka, Ill.

WOMEN'S EDUCATION IN INDIA

A National Committee for Women's Education, composed of women holding important positions in the educational and social welfare fields, has been set up by the Indian Government. The Committee will be responsible for investigating existing facilities for women's education at all levels and for suggesting improvements in primary and secondary schooling. (UNESCO)

Opportunities for Women in Medicine

AWARDS

Bedsores. A $1,000 cash prize will be awarded to the best paper on the "Etiology of Decubitus Ulcers." The money will be given by the R. D. Grant Company through the American Congress of Physical Medicine and Rehabilitation. Manuscripts should be no longer than 6,000 words. Complete rules for the contest are available from the R. D. Grant Company, Suite 761, Hippodrome Building, Cleveland 15. The winning paper will be read before the Third International Congress of Physical Medicine, Aug. 21-26, in Washington, D.C.

COURSES

Fractures and Other Trauma. The Fourth Post-Graduate Course on Fractures and Other Trauma, sponsored by the Chicago Committee on Trauma of the American College of Surgeons, will be held April 27-April 30, 1960, at the John B. Murphy Memorial Auditorium, 50 E. Erie Street, Chicago.

Distinguished physicians will present lectures on management of open fractures, injuries to the hand, femoral neck and intertrochanteric fractures, roentgenologic aspects of trauma to the spine, peripheral nerve injuries, plastic surgery of the face and extremities, athletic injuries, surgical management of vascular injuries, and injuries to the neck.

There will be panel discussions on low-back pain, abdominal injuries, and fractures in children. One evening will be devoted to clinical presentations. A special feature this year will be a program of practical demonstrations on traction, office technique of aspiration and injection of joints and bursae, transportation and emergency splinting, supination treatment of Colles fractures, strapping of the back and ankle, and manipulative reduction of common dislocations.

Registration fee will be $50. Residents will be admitted free with a note of identification from their chief of service. Inquiries should be addressed to Dr. John J. Fahey, Chairman of the Committee on the Post-Graduate Course on Fractures and Other Trauma.

MEETINGS

Anatomy. The American Association of Anatomists will meet at the Statler-Hilton in New York City April 11-16. Write to Dr. Louis B. Flexner, Department of Anatomy, School of Medicine, University of Pennsylvania, Philadelphia 4, for information.

Anesthesiology. The International Anesthesia Research Society will meet in Washington, D.C., April 3-7. Details can be obtained from Dr. A. William Friend, East 107 and Park Lane, Cleveland 6.

Biological Chemistry. The American Society of Biological Chemists, Inc., will meet April 11-16 in Chicago. Details can be obtained from Dr. Frank W. Putnam, Department of Biochemistry, University of Florida, Gainesvile.

Cancer Cytology. Mexico City will be the site of the International Conference of Cancer Cytology May 2-11. For information write to Dr. Robert Nesbitt, Union University, Albany, N. Y.

Dermatology. The American Dermatological Association, Inc., will meet April 8-12 at the Boca Raton Hotel, Boca Raton. Fla. Details can be obtained by writing to Dr. Wiley M. Sams, 308 Ingraham Bldg., Miami 32, Fla.

Heart. An International Symposium on Congenital Heart Disease will be held in Philadelphia April 28-30 under the auspices of the Deborah Sanatorium and Hospital. There will be a general session, with authorities from several nations, and "fireside" conferences on diagnostic medical and surgical problems. For further information contact the Deborah Hospital, Ninth and Walnut streets, Philadelphia 7.

Immunology. The American Association of Immunologists will meet in Chicago April 11-15. Interested physicians should contact Dr. Calderon Howe, Columbia University College of Physicians and Surgeons, New York City 22.

Industrial Medicine. The Industrial Medical Association will meet April 26-29 in Rochester, N. Y. Information can be obtained from Mr. Clark D. Bridges, 28 E. Jackson Blvd., Chicago 4.

Medicine. The Hawaii Medical Association will meet April 28-May 1. This is the Association's 104th meeting, the first under

statehood, however. Details can be obtained from Mr. Lee McCaslin, 510 S. Beretania, Honolulu 13.

Neurology. The Harvey Cushing Society will meet at the Fairmont Hotel in San Francisco April 13-17. Arrangements can be made through Dr. Edmond J. Morrisey, 450 Sutter St., San Francisco.

The American Academy of Neurology will convene at the Eden Roc Hotel in Miami, Fla., April 25-30. For information contact Mrs. J. C. McKinley, 4307 E. 50th St., Minneapolis 17.

Obstetrics and Gynecology. The American College of Obstetricians and Gynecologists will meet at the Netherland Hilton Hotel April 2-6 in Cincinnati. For information contact Mr. Donald F. Richardson, P.O. Box 749, Chicago 90.

Pathology. The American Association of Pathologists and Bacteriologists will meet in Memphis, Tenn., April 28-30, at the Hotel Peabody. For information write to Dr. Russell L. Holman, Department of Pathology, L.S.U. School of Medicine, New Orleans.

Physicians. The American College of Physicians will hold its meeting April 4-9 at the Mark Hopkins and Fairmont in San Francisco. Arrangements can be made through Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4.

Physiology. For information on the American Physiological Society meeting in Chicago April 11-15, write to Ray G. Daggs, D.Sc., 9650 Wisconsin Ave., Washington 14, D.C.

TRAINING PROGRAMS

Steroids. The National Cancer Institute of the National Institutes of Health, through the U.S. Public Health Service, is offering a training program in steroid biochemistry for postdoctoral candidates, to be held in the Department of Chemistry, Clark University, and the Department of Biochemistry, College of Medicine, University of Utah. Candidates admitted to both schools will receive a $5,500 stipend for a one year period. Application must be made by June 1, and blanks and information can be obtained from Dr. Kristen Eik-Nes, Department of Biochemistry, College of Medicine, University of Utah, Salt Lake City; or Dr. William R. Nes, Department of Chemistry, Clark University, 950 Main St., Worcester, Mass.

THESE WERE THE FIRST

DR. ELIZABETH A. REDDEMAN BALDWIN of Marshfield, Wis., was appointed as a member of the Wisconsin State Board of Health in September, 1957, and is the only woman on the board. Dr. Baldwin has been the city health officer of Marshfield, and is the mother of four children.

DR. GERTRUDE GIVSDUD of Denmark has, for five years, been serving as the Danish Colonial Government doctor for the northwest area, which extends from the North Pole and the U.S. Air Base at Thule to the northernmost tip of Greenland. She serves 20 settlements, some 50 miles apart, and traverses the area by dog sled.

DR. CECILIA GRIERSON graduated from the University of Buenos Aires in 1882 and served as intern in the Hospital Rivadavia. In 1903 she organized a class in physical therapy. The first school of nursing in Argentina bears the name of Dr. Grierson, pioneer woman physician.

DR. EMILY H. S. MCKINNON graduated in 1896 from Otago, New Zealand, as the first woman in her country to receive a medical degree.

DR. ESTHER GIMSON BARE ROSIER, born in Waterbury, Conn., 1872, died on May 16, 1954. She was graduated from the University of Illinois (College of Physicians and Surgeons of Chicago) in 1904, and sailed that same year for India. There she served at the Clara Swain Hospital in Bareilly where she pioneered in setting up the Baby Fold. After her retirement, Dr. Rosier lived at Alhambra, Calif.

DR. HOMA SHAIBANY, the first woman surgeon of Persia (now Iran), in 1939 graduated from the University of London, where she studied under a scholarship. A member of the Royal College of Surgeons, she returned to Iran in 1948 and attempted to found a hospital. Since this was opposed by some, she became engaged in private practice.

—From the ELIZABETH BASS Collection,
Rudolph Matas Medical Library,
Tulane University, New Orleans.

News of Women in Medicine

Dr. Katherine R. Boucot, Professor of Preventive Medicine at the Woman's Medical College of Pennsylvania, Philadelphia, was the moderator of a panel discussion on "Management of Chronic Bronchitis and Emphysema" at the Section of Chest Diseases of the meeting of the Pennsylvania Medical Society on Oct. 20, 1959. Dr. Jean Crump, Professor Emeritus of Pediatrics at WMC, addressed the Section on Allergy on Oct. 21.

Dr. Josephine Buchanan heads the Committee on Rehabilitation of the District of Columbia Council on the Aging. The Committee will consider social, occupational, and vocational programs as well as physical rehabilitative ones.

Dr. Elizabeth Comstock of Arcadia was elected honorary vice-president of the State Medical Society of Wisconsin.

Dr. Vernelle Fox, Medical Director of the Georgia Clinic and Commission on Alcoholism, was named Atlanta's 1958 Woman of the Year in the Professions.

In an editorial in the June, 1958, issue of the *Bulletin of the Medical Society of the County of Kings*, Dr. Irving J. Sands said, "We congratulate Dr. Sarah K. Greenberg, on the completion of 50 years of medical practice. Dr. Greenberg is both a good person and a good doctor, and she is a lady in the fullest sense of the word. Her professional service, therefore, has consistently been humane, ethical and efficient."

The Illinois Society of Anesthesiologists presented the Award of Merit to Dr. Frances E. Haines in May, 1958. Dr. Haines, who is nearing the completion of 50 years in medical practice, was cited as "founder and past-president of the pioneer Chicago Society of Anesthetists, past-president of the Midwestern Association of Anesthetists, devoted and exemplary physician and instructor."

Dr. Haines was instrumental in developing ethylene-oxygen gas anesthesia, and was the first to administer ethylene-oxygen gas only, without ether, in an abdominal operation. She is also credited as the first in Illinois to advocate the use of routine blood pressure measurements during the anesthetic and operative procedure. Although it was not until April, 1943, that medical women were commissioned in the U.S. Army, Dr. Haines was made Contact Surgeon, U.S. Army, during World War I and sent to France, being the first woman physican sent overseas by the U.S. Army. In 1926 she entered the speciality of eye, ear, nose, and throat, in which she has since been engaged.

Dr. Frances Hannett of Chicago is serving the 1959-1960 term as president of the Illinois Psychiatric Society, the first woman to hold this position.

Dr. Barbara Hewell, former Chief of Maternal and Child Health Services in Honolulu, is now a consultant in Maternal and Child Health in Asunción, Paraguay.

Dr. Edith Klemperer, New York City, was invited to present her paper, "The Forbidden Wish in Hypnoanalysis," before the annual scientific assembly of The American Society of Clinical Hypnosis in Chicago on Oct. 11, 1959.

The Trudeau medal of the National Tuberculosis Association was awarded in the spring of 1959 to Dr. Edith M. Lincoln, Adjunct Professor of Pediatrics at the New York University College of Medicine. *Scope Weekly* of Oct. 14, 1959, in the "Medical Distaff" column said, "Dr. Lincoln was cited during presentation ceremonies as a pioneer in the drug treatment of the disease in children, and her investigations were termed 'among the most influential' in establishing the value of chemotherapy of miliary tuberculosis and tuberculous meningitis in children."

Dr. Esther P. Lovejoy was feted at a dinner held in honor of her ninetieth birthday by members of the American Women's Hospitals Board of which she has been chairman for over 40 years. Dr. Catharine Macfarlane presented her with a watch, a gift from the Board. A unique bouquet was presented by Dr. Alma D. Morani. The bouquet, gathered by women doctors of Philadelphia, consisted of flowers bordered by leaves of $1 and $5 bills, totaling the number of her years, to be picked from time to time and expended for entertainment and recreation.

News of Woman's Medical College of Pennsylvania

Adolescent Clinic Established. Impressed by the need of making teen-agers self-reliant, Dr. Jean Crump, Emeritus Professor of Pediatrics, has established an Adolescent Clinic at WMC. Referral of children with problems is by school counselor or private physician. A complete physical examination and laboratory studies are done for a minimum fee and a history is obtained from the adult accompanying the youngster and from the youngster himself. Failure in high school is the immediate reason for the majority of referrals. The Eastern Pennsylvania Psychiatric Institute sends a resident to help the staff of the Clinic in aiding the patients with definite maladjustments and to direct those with deep emotional disturbances to another clinic. The staff presently includes: Drs. Jean Gowing, Anthony Bamonte, and Herta Schrom; Mrs. Irene Lovett, psychologist; and Dr. Marilyn Curran, psychiatrist.

Faculty. Dr. Robert L. Lambert was named medical director of the Hospital of WMC as of Sept. 1, 1959. He succeeded Dr. Eva Fernandez Fox who continues her association with the College as a member of the Department of Radiology and Medicine.

Fellowship for Dr. Fay. Dr. Marion Fay, President and Dean of WMC, was elected an honorary fellow in the College of Physicians of Philadelphia on Oct. 7, 1959.

Forum on Juvenile Delinquency. The fifth annual forum of WMC was held on March 11, 1959, in observance of Founders' Day. Subjects covered under the theme "The Professional Looks at the Juvenile Offender" included "Prevention of Delinquency and Early Treatment of the Offender"; "What Can Schools Do?"; "What the Youth Study Center Is Doing"; "The 'Soft Treatment'—What It Really Is"; "Probation and the Offender"; "Experiments and Experiences in the Understanding and Treatment of Offenders"; "New Horizons in Delinquency Research"; "Forestry Camps—A Rehabilitative Tool for the Juvenile Offender"; and "Delinquency and the American Family." Personnel from the fields of education, criminology, probation and parole, and others were represented in the forum. A reception and supper were included on the program.

Of the problems discussed at length, those of diagnosis, and especially early diagnosis, were highlighted by Anne Wright, District Superintendent of the Philadelphia school system. Miss Wright pointed out that even if a child is noted to be a potential offender, the agency to which he is referred would be so crowded that help would be postponed for six months to a year. And what of the money spent? ". . . very little at the stage when we have a gambler's chance to succeed."

Pearl Buck, noted author, drew on her childhood experiences in China in her discussion of delinquency in this country. She noted that corporal punishment is never resorted to in China; instead, family pressure is sufficient to curb delinquent behavior—a method demonstrated to be successful by the very low rate of delinquency in Chinese youth in this country. The United States, until recently, relied on an agrarian economy, which encouraged large families. While the trend to small family units cannot be easily reversed, American women can, as Mrs. Buck sees the problem, be better prepared for their roles, which combine familial duties with a wordlly consciousness.

Gifts and Grants. An anonymous gift of $90,000 was received for the Develooment Fund in honor of Dr. Marion Fay, President of the College. The Medical Research Foundation of Philadelphia gave a grant of $2,500 for a psychopharmacology fellowship to be established at WMC. The National Institute of Arthritis and Metabolic Diseases awarded a research grant of $9,899 to Frederick D. DeMartinis, Ph.D., Instructor in Physiology at WMC, to aid in his study of the comparison of fat deficiency with hyperthyroidism. A legacy of $10.000 was received from the estate of Dr. Ellen Culver Potter, an alumna and Emeritus President of the College. The U. S. Department of Health, Education, and Welfare, under the provisions of the Hill-Burton Act, has awarded a grant of $278,826 to the College. The money will be used for diagnostic and treatment facilities in the new seven-story wing and for renovation of the old building.

ALBUM OF WOMEN IN MEDICINE

ANN CATHERINE ARTHURS, M.D.

Ann Catherine Arthurs, President of Branch Twenty-Five, Philadelphia, of the American Medical Women's Association, was born in Baltimore and attended the Bryn Mawr School there. She went to Bryn Mawr College, graduating in 1912, and then worked for a year in the Extension Department of the Young Women's Christian Association in Baltimore, organizing clubs for factory workers.

In the fall of 1913 she went to Canton, China, under the auspices of the Presbyterian Board of Foreign Missions, to teach in the True Light Middle School for Girls. This School was at that time adding high school work to its original grade school, and she was able to see its first students graduate before returning to the United States.

In 1921 she started medical school at Johns Hopkins, but after one year transferred to the Woman's Medical College of Pennsylvania, graduating in 1925. She then studied for a year at the University of London before interning at the Woman's Hospital of Philadelphia. Later she went to the American College in Vienna where she specialized in otolaryngology.

For 25 years Dr. Arthurs taught at the WMC in the Department of Otolaryngology, where she was associate professor; since her retirement in 1955 she has been made emeritus professor. She is a member of the American College of Surgeons and a diplomate of the American Board of Otolaryngology.

Dr. Arthurs was one of the chiefs of otolaryngology at the Woman's Hospital of Philadelphia and for many years worked in their clinics and wards. She is now on the consulting staff. She also was on the staff of the Graduate School of Medicine of the University of Pennsylvania for many years, working and teaching in the otolaryngologic clinics.

Since closing her office in Philadelphia she has continued in active practice in Glen Mills and now operates at the nearby Chester County Hospital.

In summer she travels and in winter she delights in opening her lovely home, "Watersmeet," to her friends. Her hobby is hospitality, and in the fine art of cookery she has once more graduated *cum laude*.

—*Miriam Butler, M.D.*

Book Notices

Editor's Note: These reviews represent the individual opinions of the reviewers and not necessarily those of the members of the Editorial Board of the JOURNAL.

GYNECOLOGIC ENDOCRINOLOGY. By Gardner M. Riley, Ph.D., Associate Professor of Obstetrics and Gynecology, University of Michigan Medical School, Ann Arbor, and Director, Reuben Peterson Memorial Research Laboratory, University Hospital, Ann Arbor. Pp. 330, with 67 figures and 18 tables. Price $8.50. Paul B. Hoeber, Inc., New York, 1959.

Beginning with an excellent review of the basic physiology and endocrinological factors relative to the female reproductive system, this carefully written book then brings the reader to full discussions of the major clinical problems likely to be found in the area of gynecologic endocrinology. The latest theories regarding etiology and management of a variety of conditions, such as infertility, menopausal symptoms, and menstrual dysfunction, are presented, with succinct inclusion of the supporting experimental data.

The third section of the book is devoted to meticulous explanation of the various diagnostic procedures available to the physician and includes also a brief discussion of the biochemistry of the female steroid hormones. An index of currently used pharmaceutical endocrinological preparations, with suggested dosages, side effects, and biologic activity of the product, is extremely helpful.

Clarity of presentation, a feature of the book, combined with depth of scholarship, will bring the text into ready use by all physicians caring for female patients.

—Martha C. Larsen, M.D.

ATRIAL ARRHYTHMIAS, DIGITALIS AND POTASSIUM. By Bernard Lown, M.D., Research Associate in Medicine, Department of Nutrition, Harvard School of Public Health, and Junior Associate in Medicine, Peter Bent Brigham Hospital, Boston; and Harold D. Levine, M.D., Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston, and Assistant Clinical Professor of Medicine, Harvard Medical School. Pp. 222, with 51 figures and 16 tables. Price $6.00. Landsberger Medical Books, Inc., New York, 1958.

This volume is essentially a monograph, the thesis of which is that paroxysmal atrial tachycardia with block is the result of vigorous digitalis therapy and the occurrence of deficits of potassium in the body. The latter is usually the result of diuresis and cannot always be detected by serum electrolyte studies. The manner in which the potassium depletion sensitizes the atrium in the production of paroxysmal atrial tachycardia is not explained.

The value of this somewhat lengthy article is to alert the clinician to the roles of digitalis and potassium so that appropriate treatment, such as withdrawal of digitalis and/or diuretic therapy and addition of potassium, may be given. However, I think it is well for the clinician to be reminded, also, that this arrhythmia may occur in the presence of organic heart disease where no digitalis is given and where digitalis therapy may be essential to changing this rhythm to a more favorable one and to treating the failure that may accompany the arrhythmia.

—Frances Bailen Rose, M.D.

DIAGNOSTIC BACTERIOLOGY. Fifth Edition. By Isabelle G. Schaub, A.B., Assistant Professor of Microbiology and Instructor in Medicine, The Johns Hopkins University School of Medicine, Bacteriologist-in-Charge, Clinical Bacteriology Laboratories, The Johns Hopkins Hospital; M. Kathleen Foley, M.A., Assistant Professor of Biological Sciences, College of Notre Dame of Maryland, formerly Bacteriologist-in-Charge, Diagnostic Bacteriology Laboratory, Medical Clinic, The Johns Hopkins Hospital; Elvyn G. Scott, M.T. (ASCP), Bacteriologist-in-Charge, Department of Bacteriology, the Delaware Hospital, Consultant in Bacteriology, the Memorial Hospital, Wilmington, Del.; and W. Robert Bailey, Ph.D., Associate Professor of Biological Sciences, University of Delaware, formerly Bacteriologist-in-Charge, Enteric Bacteriology Laboratory, Laboratory of Hygiene, Department of National Health and Welfare, Canada. Pp. 338, with 14 figures. Price $4.75. The C. V. Mosby Company, St. Louis, 1958.

The concise presentation of this book from the point of view of the interests and needs of the bacteriologist, namely cytological, morphologic, physiological, and biochemical, makes it an invaluable guide. It gives clear explanations of bacterial phenomena, including full and up-to-date material on cultivation and identification of such pathogenic bacteria as the strain of *Escherichia coli* causing infantile diarrhea and on new methods of identification of group A beta streptococci and pneumococci. The improved procedure for quantitative urine cultures should be most helpful to the urologist in reference to his chronic cases. The section on the identification of fungi is especially useful. The advised methods are simple to follow and identification is presented in a clear-cut manner. The text and illustrations together cover fully all important aspects of clinical bacteriology.

—Alice Winter, Bacteriologist
New York Infirmary

CLINICAL UROLOGY FOR GENERAL PRACTICE. By Justin J. Cordonnier, M.D., F.A.C.S., Professor of Urology, Washington University School of Medicine, St. Louis; Chief, Department of Urology, Barnes, St. Louis Children's, and Allied hospitals; Chief of Urology, Washington University Clinics; and Consultant in Urology, U.S. Veterans Hospital, St. Louis. Pp. 252, with 47 illustrations. Price $6.75. The C. V. Mosby Company, St. Louis, 1956.

A comprehensive knowledge of urology is essential to every practitioner of medicine. Ofttimes those in the specialty are inclined to too much detail for the student. To decide just how much each class needs is a real problem for the teacher of urology. Dr. Cordonnier has done an excellent job in sorting out the important features.

Many urologic problems can be managed by one in general practice. Much of this work deals with diagnosis and therapy. A great deal of space has been devoted to the neoplasms of the urinary tract. If I had any suggestions, it would be that perhaps this part of the work is a little more fully covered than necessary. The chapter on fertility in the male is especially timely and often neglected in the routine courses in urology.

This volume will be of particular value to the practicing physician who has not experienced some of these problems since his medical school days. It should be a good book to add to the practitioner's library as well as to that of the medical school

—Stanford W. Mulholland, M.D.

Books Received

The following books have been received for review and are acknowledged in this column. More detailed reviews will be published on books of most interest to our readers and as space permits.

FLUID AND ELECTROLYTES IN PRACTICE. Ed. 2. By Harry Statland, M.D., Associate in Medicine, University of Kansas School of Medicine, Kansas City; Chief, Division of Internal Medicine, Menorah Medical Center, Kansas City, Mo.; and Consultant in Medicine, V.A. Hospital, Kansas City, Mo. Pp. 229, with 31 illustrations. Price $6.00 (cloth). J. B. Lippincott Company, Philadelphia, 1957.

FOR TWO PLEASE. Book About Twins by Mothers of Twins. Pp. 37. Price $1.10. Main Line Mothers of Twins Club, Bryn Mawr, Pa., 1958.

FIRST REPORT ON THE WORLD HEALTH SITUATION, 1954-1956. Pp. 392, with maps and charts. Price $3.25 (paper). World Health Organization, Geneva, Switzerland, 1959.

THE GIST OF OBSTETRICS. By H. B. Atlee, M.D., F.R.C.S., F.I.C.S., Head of Department of Obstetrics and Gynecology, Dalhousie University, Halifax, Nova Scotia, Canada. Pp. 327, with 88 figures. Price $6.00. Charles C Thomas, Publisher, Springfield, Ill., 1957.

GUIDE TO MEDICAL WRITING. Practical Manual for Physicians, Dentists, Nurses, and Pharmacists. By Henry A. Davidson, M.D. Pp. 338. Price $6.00. The Ronald Press Company, New York, 1957.

HANDBOOK ON STANDARD NOMENCLATURE OF DISEASES AND OPERATIONS. Edited by Edward T. Thompson, M.D., and Adaline C. Hayden, C.R.L. Prepared for the American Medical Association. Pp. 71. Price $1.50 (paper). The Blakiston Division, McGraw-Hill Book Company, Inc., New York, 1959.

HEALTH NURSE. (Nursing Research Monograph No. 1). By Ida Gelber, R.N., Research Consultant of Health Office of Research and Development. Pp. 139, with 46 tables. Price $3.00 (paper). New York University Press, New York, 1959.

HEINZ HANDBOOK OF NUTRITION. Pp. 439, with illustrations. Price $5.75 (cloth). The Blakiston Division, McGraw-Hill Book Company, Inc., New York, 1959.

IDEALS IN MEDICINE. A Christian Approach to Medical Practice. Edited by Vincent Edmunds, M.D., M.C.R.P., and C. Gordon Scorer, M.B.E., M.D., F.R.C.S. Pp. 185. Price 12s.6d. The Tyndale Press, London, England, and Christian Medical Fellowship, Chicago, 1958.

INTERNAL SECRETIONS OF THE PANCREAS. Vol. 9. Ciba Foundation Colloquia on Endocrinology. Edited by G.E.W. Wolstenholme, O.B.E., M.A., M.B.A., B.Ch., and Cecilia M. O'Connor, B.Sc. Pp. 292, with 100 illustrations. Price $7.00. J. & A. Churchill, Ltd., London, England, and Little, Brown & Company, Boston, 1956.

LIFE OF SIR ALEXANDER FLEMING: Discoverer of Penicillin. By André Maurois. Pp. 293, with photographs. Price $5.00 (cloth). E. P. Dutton & Company, Inc., New York, 1959.

MEAT HYGIENE. By V. E. Albertsen and others. WHO Monograph Series No. 33. Pp. 527, with 108 illustrations. Price $10.00 (cloth). World Health Organization, Geneva, Switzerland, 1957.

MEDICAL INTERVIEW. Study of Clinically Significant Interpersonal Reactions. By Ainslie Meares, M.B.B.S., B.Agr.Sc., D.P.M. Pp. 117. Price $3.50 (cloth). Charles C Thomas, Publisher, Springfield, Ill., 1957.

MEDICAL WRITING. The Technic and Art. Ed. 3. By Morris Fishbein, M.D., former Editor, *Journal of the American Medical Association*; Contributing Editor, Postgraduate Medicine; and Editor, Excerpta Medica, Amsterdam. Pp. 262, with illustrations. Price $7.00. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, 1957.

MENTALLY RETARDED CHILD AT HOME. Manual for Parents. By Laura L. Dittmann, Specialist in Home Training Programs for Mentally Re-

tarded Children, U.S. Children's Bureau Division of Health Services. Pp. 99, with illustrations. Price $0.35. U.S. Government Printing Office, Washington 25, D.C., 1959.

METHODS IN ENZYMOLOGY. Vol. IV. Special Techniques for the Enzymologist. Edited by Sidney P. Colowick, Ph.D., Professor of Biological Chemistry, The Johns Hopkins University, Baltimore, and Nathan O. Kaplan, Ph.D., Associate Professor of Biological Chemistry, The John Hopkins University. Pp. 979, with illustrations. Price $24.00. Academic Press, New York, 1957.

MODERN CHEMOTHERAPY OF TUBERCULOSIS. Antibiotics Monographs No. 11. Roger S. Mitchell, M.D., F.A.C.P., and J. Carroll Bell, M.D., F.A.C.P., of the Colorado Foundation for Research in Tuberculosis and the University of Colorado School of Medicine, Denver. Pp. 109, with 11 figures and 13 tables. Price $4.00 (cloth). Medical Encyclopedia, Inc., New York, 1958.

ONE SURGEON'S PRACTICE. By Frederick Christopher, M.D., Emeritus Professor of Surgery, Northwestern University Medical School, Chicago. Pp. 151. Price $4.00 (cloth). W. B. Saunders Company, Philadelphia, 1957.

PASTEUR FERMENTATION CENTENNIAL, 1857-1957. Edited and produced by Editorial Projects, Inc. Pp. 207, with 13 charts, 10 figures, and 8 full-page plates. Charles Pfizer & Company, Inc., New York, 1958. Out of print.

PHARMACOLOGIC PRINCIPLES OF MEDICAL PRACTICE. Ed. 4. By John C. Krantz, Jr., Professor of Pharmacology, School of Medicine, University of Maryland, and Member of General Committee of Revision of the U.S. Pharmacopeia, and C. Jelleff Carr, Senior Research Pharmacologist, Psychopharmacology Service Center, National Institute of Mental Health, and Professor of Pharmacology, School of Medicine, University of Maryland. Pp. 1,113, with 59 illustrations and 4 color plates. Price $14.00. The Williams & Wilkins Company, Baltimore, 1958.

PHYSICAL DIAGNOSIS. Ed. 14. By F. Dennette Adams, M.D., Physician, Board of Consultation, Massachusetts General Hospital; Consultant to The Surgeon General, U.S. Army; Consultant to Boston and Bedford, Mass., Veterans Administration Hospitals; and formerly Assistant Clinical Professor of Medicine, Harvard Medical School. Pp. 926 with 419 illustrations. Price $12.00. Williams & Wilkins Co., Baltimore, 1958.

POLIOMYELITIS. Papers and Discussions Presented at the Third International Poliomyelitis Congress. Pp. 567, with 442 illustrations. Price $7.50. J. B. Lippincott Company, Philadelphia and Canada, 1955.

PRACTICAL PSYCHIATRY FOR INDUSTRIAL PHYSICIANS. By W. Donald Ross, M.D., F.R.C.P. (C), Associate Professor of Psychiatry, University of Cincinnati. Foreward by Robert A. Kehoe, M.D. Preface by Maurice Levine, M.D. Pp. 401, with illustrations. Price $7.50 (cloth). Charles C Thomas, Publisher, Springfield, Ill., 1957.

PROGRESS IN GYNECOLOGY. Vol. 3. Edited by Joe V. Meigs, M.D., Clinical Professor of Gynecology, Harvard Medical School; Visiting Consulting Surgeon, Massachusetts General Hospital; Visiting Consulting Gynecologist, Vincent Memorial Hospital; Surgeon, Pondville Hospital; and Gynecologist, Palmer Memorial Hospital, Boston; and Somers H. Sturgis, M.D., Clinical Professor of Gynecology, Harvard Medical School, Surgeon and Head of Department of Gynecology, Peter Bent Brigham Hospital, Boston. Pp. 78, with illustrations. Price $15.50 (cloth). Grune & Stratton, New York, 1957.

PROGRESS IN NUCLEAR ENERGY. Vol. I, Series 7 of Medical Sciences. Edited by J. C. Bugher, J. Coursaget, and J. F. Loutit. Pp. 288. Price $6.00. Pergamon Press, Inc., New York, 1956.

PSYCHOPHARMACA. Bibliography of Psychopharmacology, 1952-1957. Compiled by Anne E. Caldwell, M.D., for the Psychopharmacology Service Center, National Institute of Mental Health, National Institutes of Health. Pp. 258. Price $1.50 (paper). U.S. Department of Health, Education, and Welfare, Public Health Service, U.S. Government Printing Office, Washington, D.C., 1958.

REHABILITATION. Community Challenge. By W. Scott Allan. Pp. 247, with 4 figures. Price $5.75. John Wiley & Sons, Inc., New York, 1958.

RELAXATION AND EXERCISE FOR NATURAL CHILDBIRTH. Ed. 2. By Helen Heardman. Pp. 31, with illustrations. Price $0.75 (paper). E.L.S. Livingstone, Ltd., London, England, 1959.

RESEARCH IN SCIENCE AND TECHNOLOGY at the University of Arizona, an Interpretive Report. Issued as a public service in connection with the University's 75th anniversary of founding. The University of Arizona Press, Tucson, 1959.

REVERSICON. Medical Word Finder. By J. E. Schmidt, Ph. B.S., M.D., Litt.D. Pp. 440. Price $7.50. Charles C Thomas, Publisher, Springfield, Ill., 1958.

SCIENCE LOOKS AT SMOKING. By Eric Northrup, Feature Editor of *Scope Weekly*. Introduction by Dr. Harry S. N. Greene, Chairman, Department of Pathology, Yale University, New Haven, Conn. Pp. 190. Price $3.00. Coward-McCann, Inc., New York, 1957.

SERVICES FOR CHILDREN WITH EPILEPSY. Guide for Public Health Personnel. Pp. 124. Price $1.50. Committee on Child Health, American Public Health Association, Inc., New York, 1958.

SYMPOSIUM ON NUTRITION AND BEHAVIOR, Nutrition Symposium Series No. 14. Proceedings of a Symposium Held at the University of Minnesota, School of Public Health, Laboratory of Physiological Hygiene, Minneapolis, April 27, 1956. Guest Edited by Josef Brozek. Pp. 134, with illustrations. Reprinted from the *American Journal of Clinical Nutrition*, Vol. 5, No. 2, 1957, by the National Vitamin Foundation, Inc., New York, 1957.

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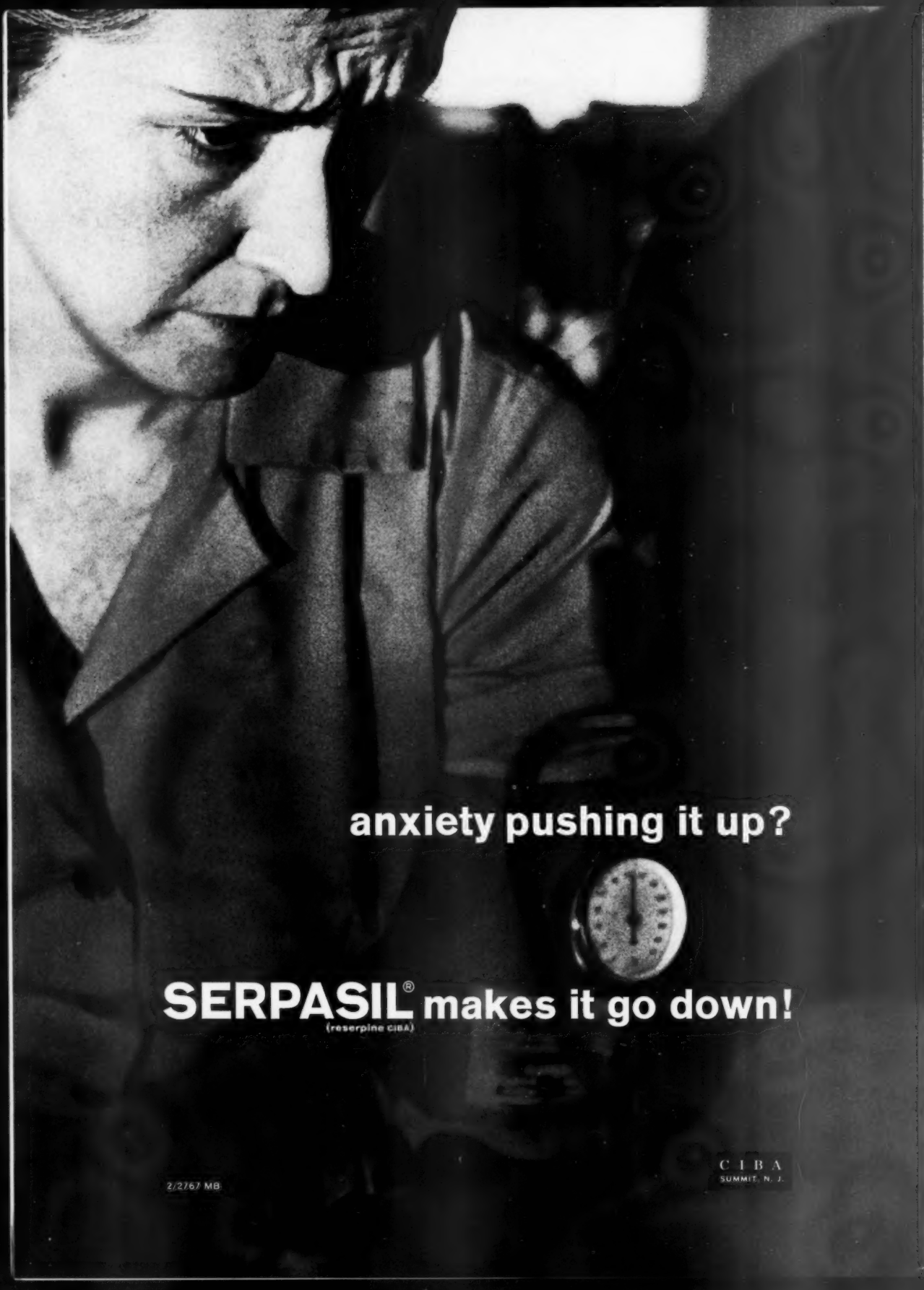
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REFERENCES: 1. Barrett, M. E.: J. M. Assoc. Alabama 26:144, 1956. 2. Youngblood, V. H.: J. Urol., Balt., 70:926, 1953. 3. Youngblood, V. H.; Tomlin, E. M.; Williams, J. O. and Kimmelstiel, P.: Tr. Southeast. Sect. Am. Urol. Assoc., Atlanta, Ga. (Apr. 7-11) 1957, p. 40-43. 4. Youngblood, V. H.; Tomlin, E. M. and Davis, J. B.: J. Urol., Balt., 78:150, 1957.

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Miller, R. F.: Clin. Rev. 1:10 (July) 1958

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1. Projection from Vital Statistics, U.S. Government Dept. HEW, Vol. 48, No. 14, 1958, p. 398.
2. Modell, W.: Drugs of Choice 1958-1959, St. Louis, C. V. Mosby Company, 1958, p. 347.

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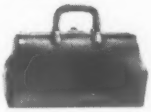

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(Continued from Page 250)

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(Continued on page 306)

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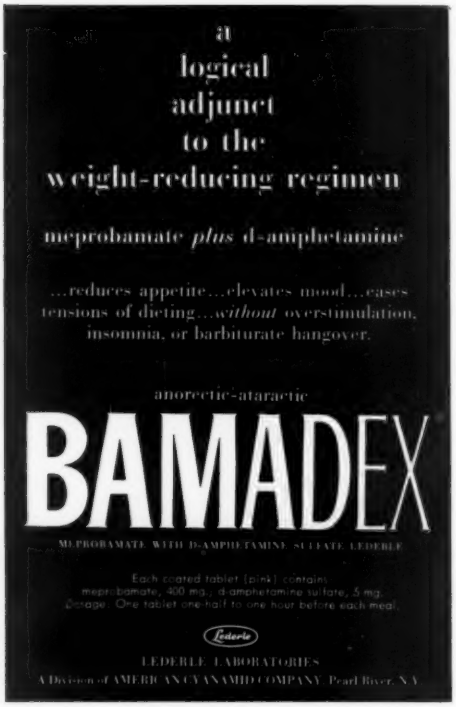
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(Continued from Page 305)

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THE physician who puts a woman on "Premarin" when she is suffering in the menopause usually makes her pleasant to live with once again. It is no easy thing for a man to take the stings and barbs of business life, then to come home to the turmoil of a woman "going through the change of life." If she is not on "Premarin," that is.

But have her begin estrogen replacement therapy with "Premarin" and it makes all the difference in the world. She experiences relief of physical distress and also that very real thing called a "sense of well-being" returns. She is a happy woman again — something for which husbands are grateful.

"Premarin," conjugated estrogens (equine), a complete natural estrogen complex, is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

Ayerst Laboratories • New York 16, N. Y.
Montreal, Canada

5874

SYMPOSIUM REPORT:

ALTAFUR in antibiotic-resistant staphylococcal infections

ALTAFUR proved superior to any other single agent against staphylococcal infections encountered in the pediatric section of a general hospital. Introduced during an epidemic of severe staphylococcal pneumonia and bronchiolitis in younger children, ALTAFUR was employed in treating a total of 59 infants or juvenile patients, most of whom had upper or lower respiratory tract involvement. Almost all had been given antibiotics without effect; 34 were judged severely or critically ill. Cures were obtained in 54 of these patients after a 3 to 10 day course of ALTAFUR. There was only one failure (results were inconclusive in the remaining four cases). Mixed infections with Pneumococcus or Streptococcus sp. also responded readily.

ALTAFUR was administered orally in varying dosage: the optimal dose is believed to be about 22 mg./Kg. daily.

Side effects were minimal in these patients, being limited to gastric intolerance in a few cases, usually controllable by giving the drug with or after meals. Laboratory studies performed before and after ALTAFUR treatment revealed no adverse influence on renal, hepatic or hematopoietic function, nor other signs of toxicity.

In vitro, staphylococci isolated in this series proved uniformly susceptible to ALTAFUR, whereas many strains were resistant to a variety of antibotics. With ALTAFUR as with all nitrofurans, the lack of development of significant bacterial resistance is considered a major advantage over other antimicrobials.

Lysaught, J. N., and Cleaver, W.: Paper presented at the Symposium on Antibacterial Therapy, Michigan and Wayne County Academies of General Practice, Detroit, Sept. 12, 1959 (published Nov., 1959)

bright new star

in the antibacterial firmament

ALTAFUR™

brand of furaltadone

the first nitrofuran effective orally in systemic bacterial infections

- Antimicrobial range encompasses the majority of common infections seen in everyday office practice and in the hospital
- Decisive bactericidal action against staphylococci, streptococci, pneumococci, coliforms
- Sensitivity of staphylococci in vitro (including antibiotic-resistant strains) has approached 100%
- Development of significant bacterial resistance has not been encountered
- Low order of side effects
- Does not destroy normal intestinal flora nor encourage monilial overgrowth (little or no fecal excretion)

Tablets of 50 mg. (pediatric) and 250 mg. (adult)
Average adult dose: 250 mg. four times a day, with food or milk
Pediatric dosage: 22-25 mg./Kg. (10-11.5 mg./lb. body weight daily in 4 divided doses

CAUTION: The ingestion of alcohol in any form, medicinal or beverage, should be avoided during Altafur therapy.

NITROFURANS—a *unique* class of antimicrobials
EATON LABORATORIES, NORWICH, NEW YORK

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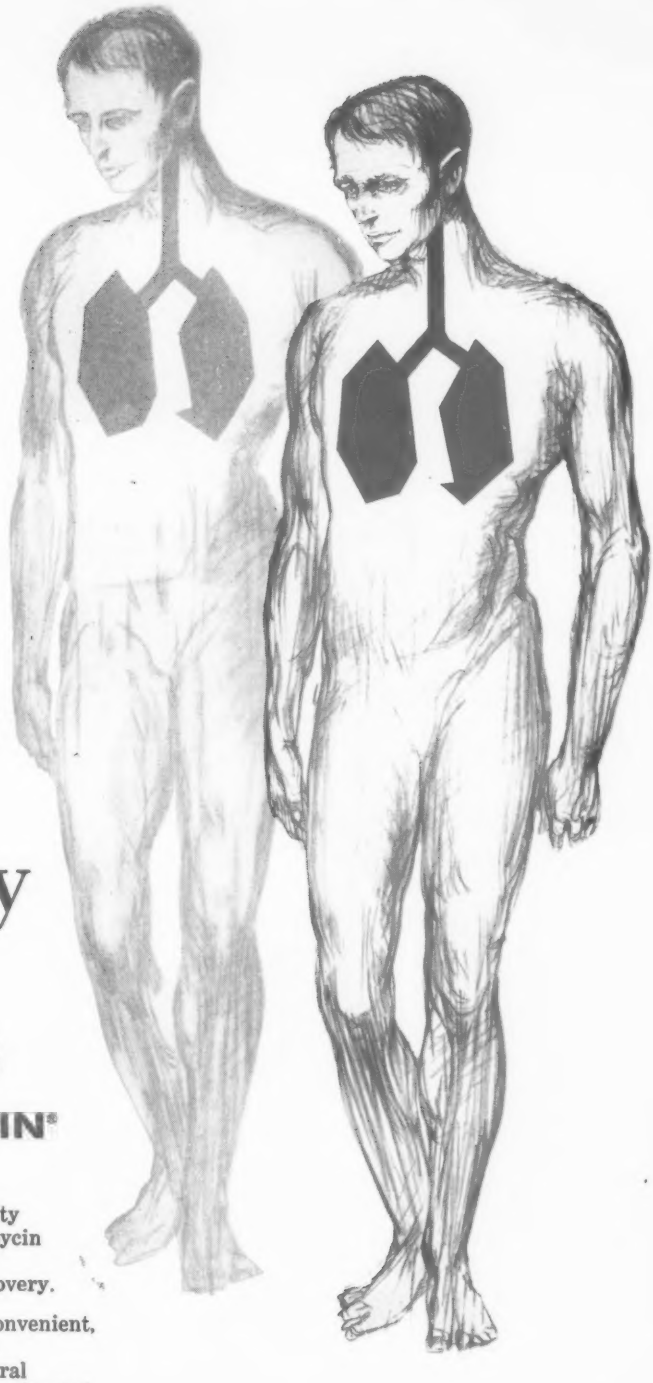

the margin of difference in respiratory tract infections

COSA-TERRAMYCIN®

oxytetracycline with glucosamine

CAPSULES

The greater effectiveness, proven safety and outstanding toleration of Terramycin provide a margin of difference for swift response and uncomplicated recovery.

This margin is further extended by convenient, economical, ready-to-use Terramycin Intramuscular Solution followed by oral Cosa-Terramycin—the compatible, coordinated course of broad-spectrum therapy worthy of consideration for your next patient with a respiratory infection.

Supply: Cosa-Terramycin Capsules—250 mg. and 125 mg. New Cosa-Terrabon* Oral Suspension—125 mg./5 cc. (tsp.), preconstituted, fruit flavored, bottles of 2 oz. and 1 pint. New Cosa-Terrabon Pediatric Drops—100 mg./cc. (5 mg./drop), preconstituted, fruit flavored, 10 cc. bottle with calibrated plastic dropper. Terramycin Intramuscular Solution†—ampules of 100 mg./2 cc. and 250 mg./2 cc.

Terramycin is also available in a variety of topical and local forms to meet specific therapeutic requirements.

*Trademark
†Contains 2% Xylocaine® (lidocaine), registered trademark of Astra Pharmaceutical Products, Inc.

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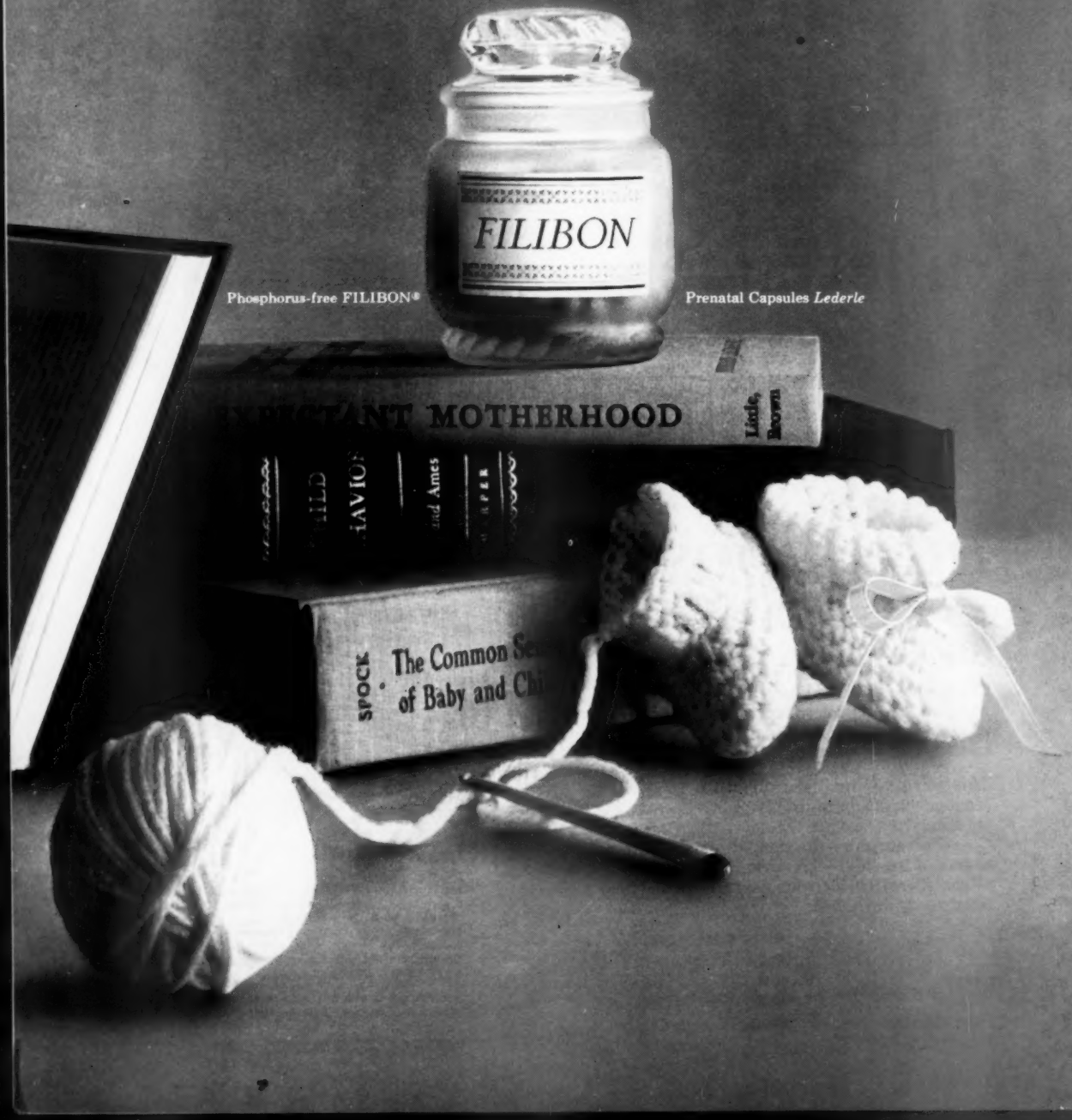
Brooklyn 6, N. Y.

AN IMPORTANT PART OF THE PRENATAL PLAN...

the decorative FILIBON jar, an objective reminder of the single capsule daily dose...assuring effective nutritional support every day with the complete FILIBON formula. Includes a well-tolerated iron hematinic, noninhibitory intrinsic factor in readily accepted small, oil-free capsules. For complete formula see Physicians' Desk Reference, 1960, page 697.

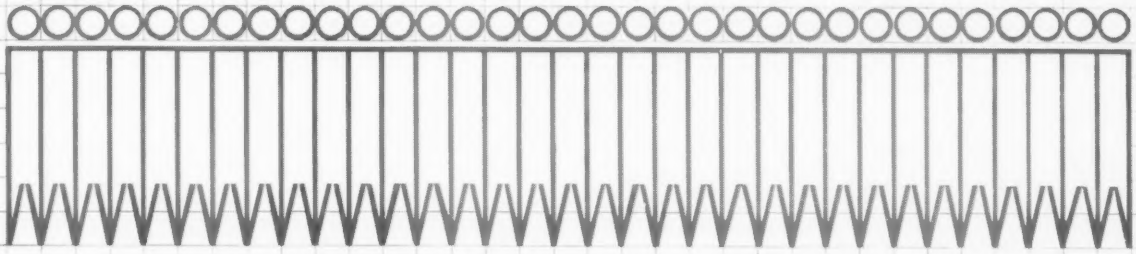
LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.



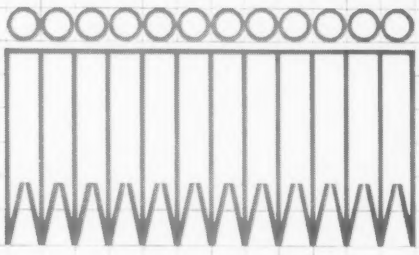
Decadron®

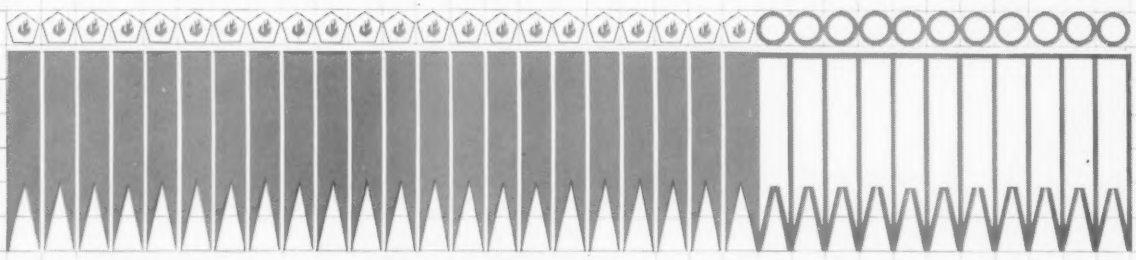
DEXAMETHASONE

treats more patients more effectively...

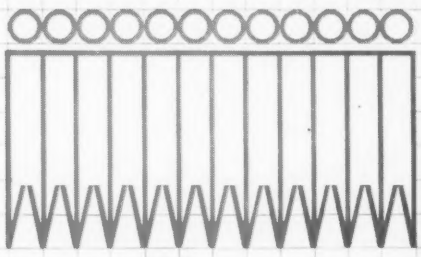


Of 45 arthritic patients
who were refractory
to other corticosteroids*





22 were successfully
treated with **Decadron**[1,2]



1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.
2. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

*Cortisone, prednisone and prednisolone.

DECADRON is a trademark of Merck & Co., Inc.

Additional information on DECADRON is available to physicians on request.

Merck Sharp & Dohme

DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

too busy to give herself

the special care she needs

NATALINS® COMPREHENSIVE

Vitamins and minerals, Mead Johnson

tablets

a prenatal supplement especially for the multipara†

Convenient one-tablet-a-day dosage

Circumstances often combine to increase the multipara's chances of diet deficiency. With children to care for, she uses more energy, yet may not take the time to replenish it by eating properly. In addition, her store of nutrients may have been depleted by previous pregnancies. The result, as one study* of over 1,000 obstetrical patients has shown, is a greater tendency toward anemia among multiparas.

statistics show...

primigravidas	24 per cent anemic*
multiparas	36.8 per cent anemic*

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also available NATALINS® Basic tablets

Vitamins and minerals, Mead Johnson
supplying four basic vitamins and minerals

*Traylor, J. B., and Torpin, R.: Am. J. Obst. & Gynec. *61*:71-74 (Jan.) 1951.

†Projected estimate from data of U.S. Office of Vital Statistics indicated that 3 out of 4 births in 1958 were to multiparas.

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